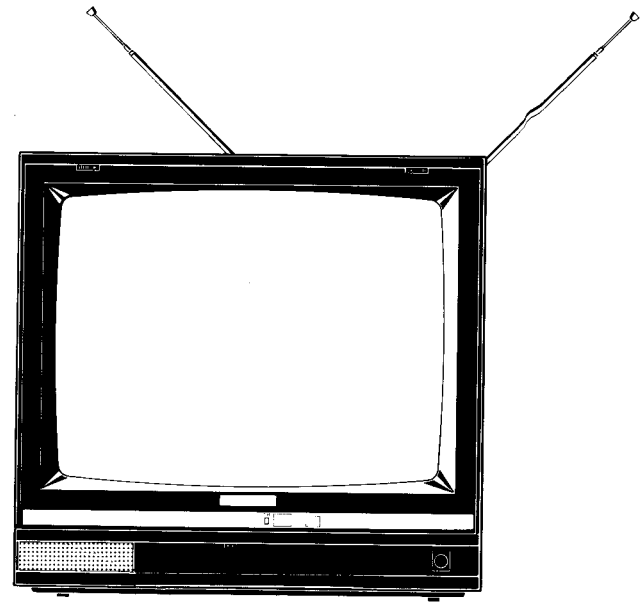
COLOUR TV SERVICE MANUAL

CAUTION

BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.



CONTENTS

SPECIFICATIONS

Power Source ..... AC 220V ±20%, 50/60Hz
Power Consumption 80W
Receiving TV System ..... CCIR STANDARD
Colour Receiving System ..... PAL B/G
Receiving Channels ..... 2-4 & S1, S21-S25, 5-12 & S2-S20, 21-69
Intermediate Frequency
- Picture ..... 38.9 MHz
- Sound ..... 33.4 MHz
- Colour ..... 34.47 MHz

Tuning ..... Frequency Synthesizer
Audio Output 1.5W
Antenna Input Impedance ..... 75 ohm IEC Type
Picture Tube 510YUB22-TC03
Speaker ..... 90 × 50 mm
Dimension ..... 490(W) × 473(H) × 468(D) mm
Weight ..... 23.5 Kg

SAFETY PRECAUTIONS

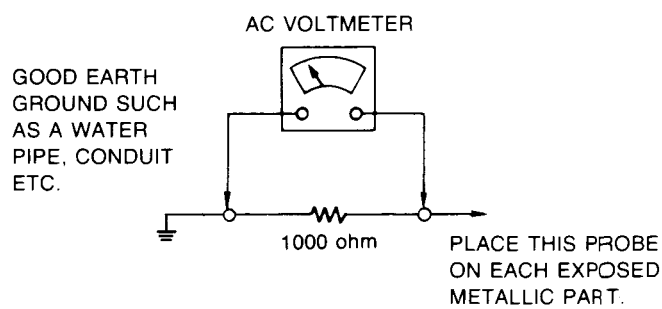
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" DESCRIBED BELOW.

X-RAY RADIATION PRECAUTIONS

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 25.5KV at zero beam current (minimum brightness) under specified power source. The high voltage must not under any circumstances, exceed 27.5KV. Each time a receiver requires servicing, the high voltage should be checked. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY INSTRUCTIONS

1. Potentials as high as 24,000 volts are present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
   (1) Servicing should not be attempted by anyone who is not throughly familiar with the precautions necessary when working on high-voltage equipment.
   (2) Always discharge the picture tube anode to the CHASSIS GROUND to keep off the shock hazard before removing the anode cap.
   (3) Perfectly discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled.
2. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.
3. When replacing parts or circuit boards, wind the lead wires around terminals before soldering.
4. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10 mm away from circuit board.
5. Keep wires away from high voltage or high temperature components.
6. This TV receiver should be connected to AC 180V-270V.
7. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc, to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 220V AC outlet (do not use a line isolation transformer during this check. Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner.
   Connect a 1000 ohm resistor between a know good earth ground, (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1000 ohm resistor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts RMS. This corresponds to 0.1 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characterstics are identified by ⚠ on the schematic diagram and the shaded areas on the replacement parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create X-RAY RADIATION.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service manual and its supplements and addendums, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication. *NOTE:* If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. *Remember: Safety First.*

General Servicing Precautions

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
   d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. *Do not test high voltage by "drawing an arc".*
3. Discharge the picture tube anode only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do *not* spray chemicals on or near this instrument or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: *This is a flammable mixture.*
   Unless specified otherwise in this service manual, lubrication of contacts is not required.
6. Do *not* defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
7. Do *not* apply AC power to this instrument and/or any of its electrical assemblies unless *all* solid-state device heat sinks are correctly installed.
8. Always connect the test instrument ground lead to the instrument chassis ground *before* connecting the test instrument positive lead.
   Always remove the test instrument ground lead *last.*
9. *Use with this instrument only the test fixtures specified in this service manual.*
   CAUTION: Do *not* connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a *grounded-tip* soldering iron to solder or unsolder ES devices.
4. Use only an *anti-static* type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficent to damage ES devices.
5. Do *not* use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do *not* remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed. **CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch, or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.

CAUTION: Work quickly to avoid overheating the circuit board printed foil.

d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Removal/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against, the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/ Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output Transistor Devices Removal/ Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heatsink mounting screw (if so equipped).
3. Carefully remove the transistor and heat sink from the circuit board.
4. Insert new transistor in circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicularly to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/ Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.
2. Securely crimp leads of replacement component around notch at stake top.
3. Solder the connections.

   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off", the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

High component/copper pattern density and/or special voltage current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as *Critical Copper Pattern* and is, identified and illustrated in this service manual in the section titled *Safety Related Copper Pattern.* (see table of conents for page number). Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your local Company Consumer Electronics Distributor Service Manager before attempting repair of Critical Copper Pattern.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

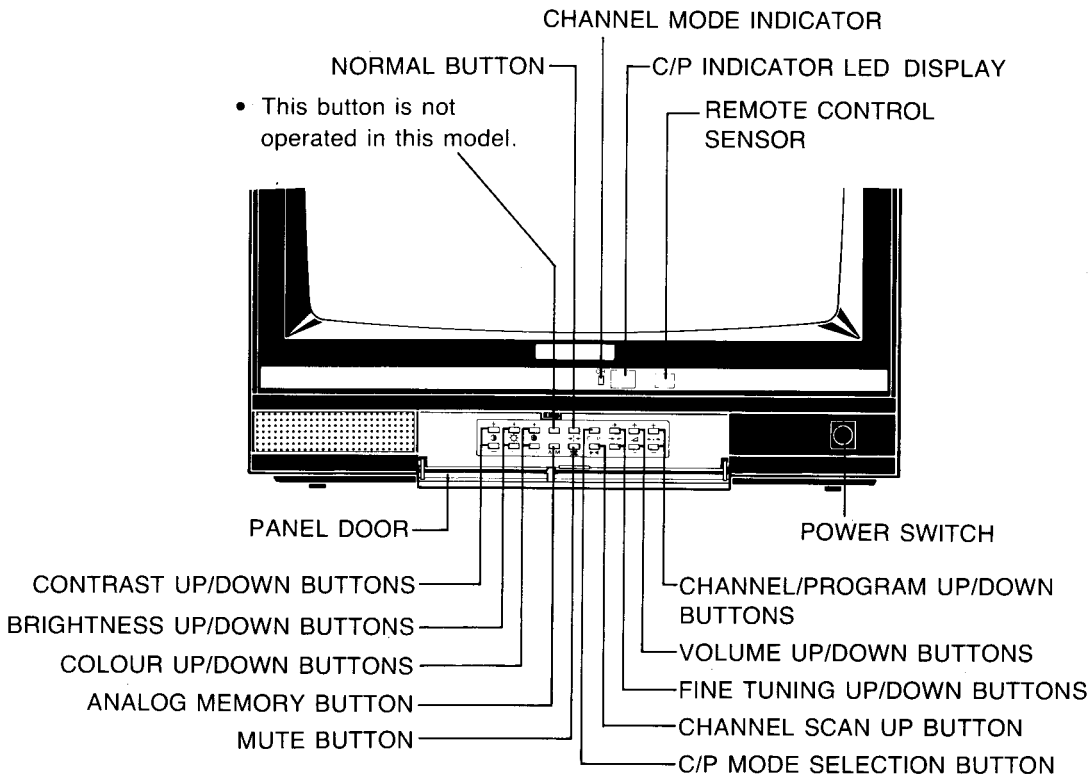
Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.

   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

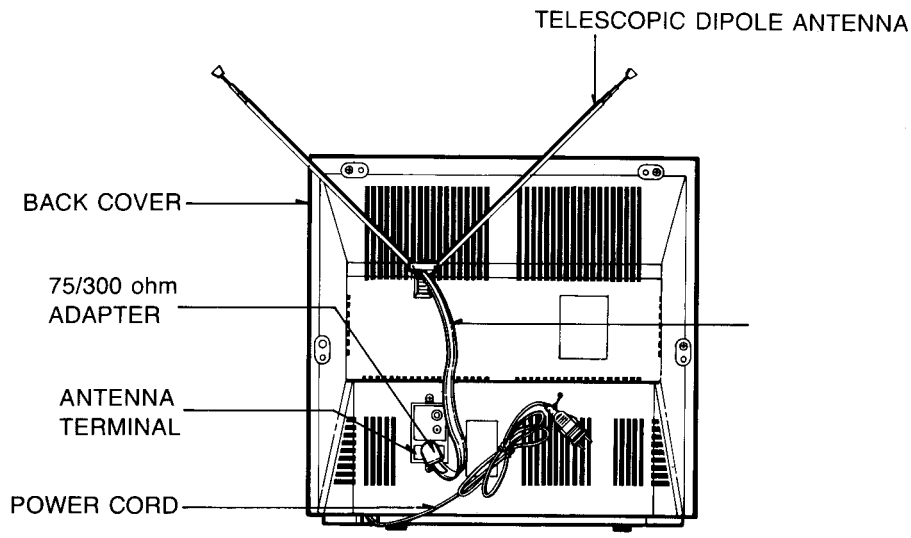
CONTROLS LOCATION

FRONT



(Figure 1)

BACK



(Figure 2)

ANTENNA

INDOOR ANTENNA

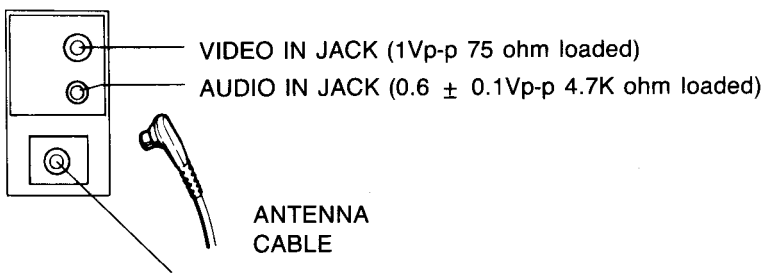
This television set is equipped indoor antenna. To obtain the best possible picture, adjust the antenna in any way possible, length, direction or angle. Generally, the lower channels require the maximum length of the telescopic antenna.

OUTDOOR ANTENNA

If it is difficult to get good reception with the indoor antenna, use the outdoor antenna for better results.
Optimum colour reception requires a good outdoor antenna.
When using previously installed outdoor antenna, check the antenna and its leads for the effects of weathering.
When using an outdoor antenna, disconnect the leads of the indoor antenna from the antenna terminal socket.

COAXIAL CABLE

- In case of using the coaxial cable (75 ohm) for UHF/VHF antenna, connect the plug (refer to figure 4) into the 75 ohm socket as shown in figure 3.



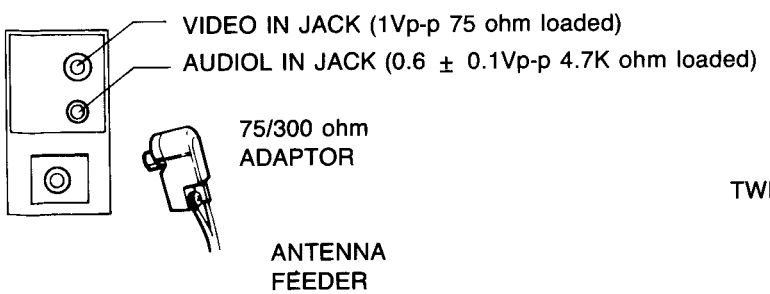
(Figure 3)

COAXIAL CABLE (75 ohm)

(Figure 4)

TWIN LEAD TYPE FEEDER

- In case of using the twin-lead type feeder (300 ohm) for UHF/VHF antenna, trim the lead as shown in figure 6 and connect the lead to the 300 ohm connector on the adaptor.
  Then, connect the adaptor to the 75 ohm socket as shown in figure 5.



(Figure 5)

TWIN LEAD TYPE FEEDER (300 ohm)

(Figure 6)

DISASSEMBLY INSTRUCTIONS

BACK CABINET REMOVAL

1. Remove 6 screws residing on back cabinet and carefully separate the back cabinet from the front cabinet.

CHROMA PCB REMOVAL

1. Remove P10, P11 connectors from main PCB.

MAIN CHASSIS REMOVAL

1. Grasp both sides of main chassis,pull it backward approximately 1/2″.
2. Lift main chassis up and it may be removed.

TUNING ASSY REMOVAL.

1. Remove 2 screws fixing tuning board.

SPEAKER ASSY REMOVAL

1. Remove P601 connector between speaker and main chassis.
2. Remove 4 screws.

SWITCH ASSY REMOVAL

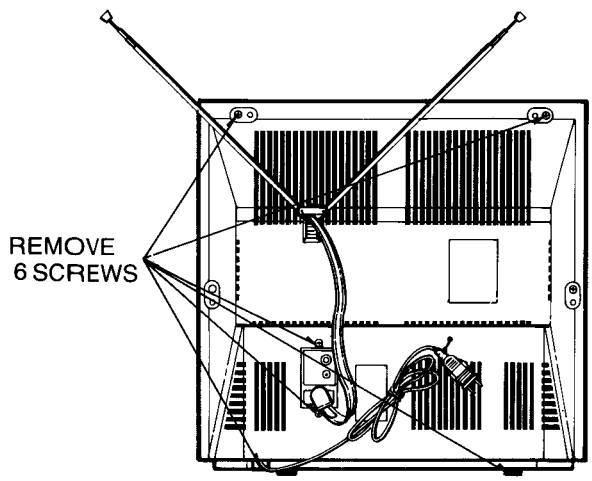
1. Remove 3 screws from front cover.

CPT REMOVAL

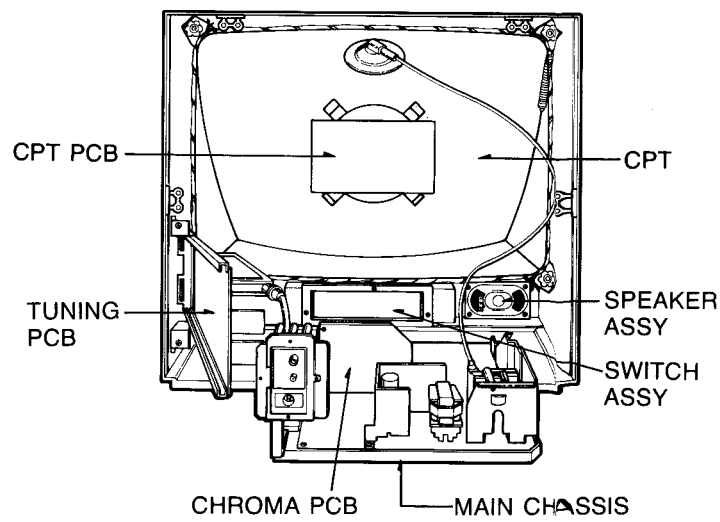
1. Pull out the CPT board from CPT neck.
2. Loosen the clamping screws on the deflection yoke, purity and static convergence magnet and remove them.
3. Place cabinet front on soft material so as not to mar the front surface or damage control knobs.
4. Remove 4 screws securing the picture tube mounting brackets to the front cabinet.
5. Carefully separate CPT from front cabinet.

PICTURE TUBE HANDLING CAUTION

Due to high vacuum and large surface area of picture tube, great care must be exercised when handling picture tube. Always lift picture tube by grasping it firmly around faceplate. NEVER LIFT TUBE BY ITS NECK. The picture tube must not be scratched or subjected to excessive pressure as fracture of glass may result in an implosion of considerable violence which can cause personal injury or property damage.

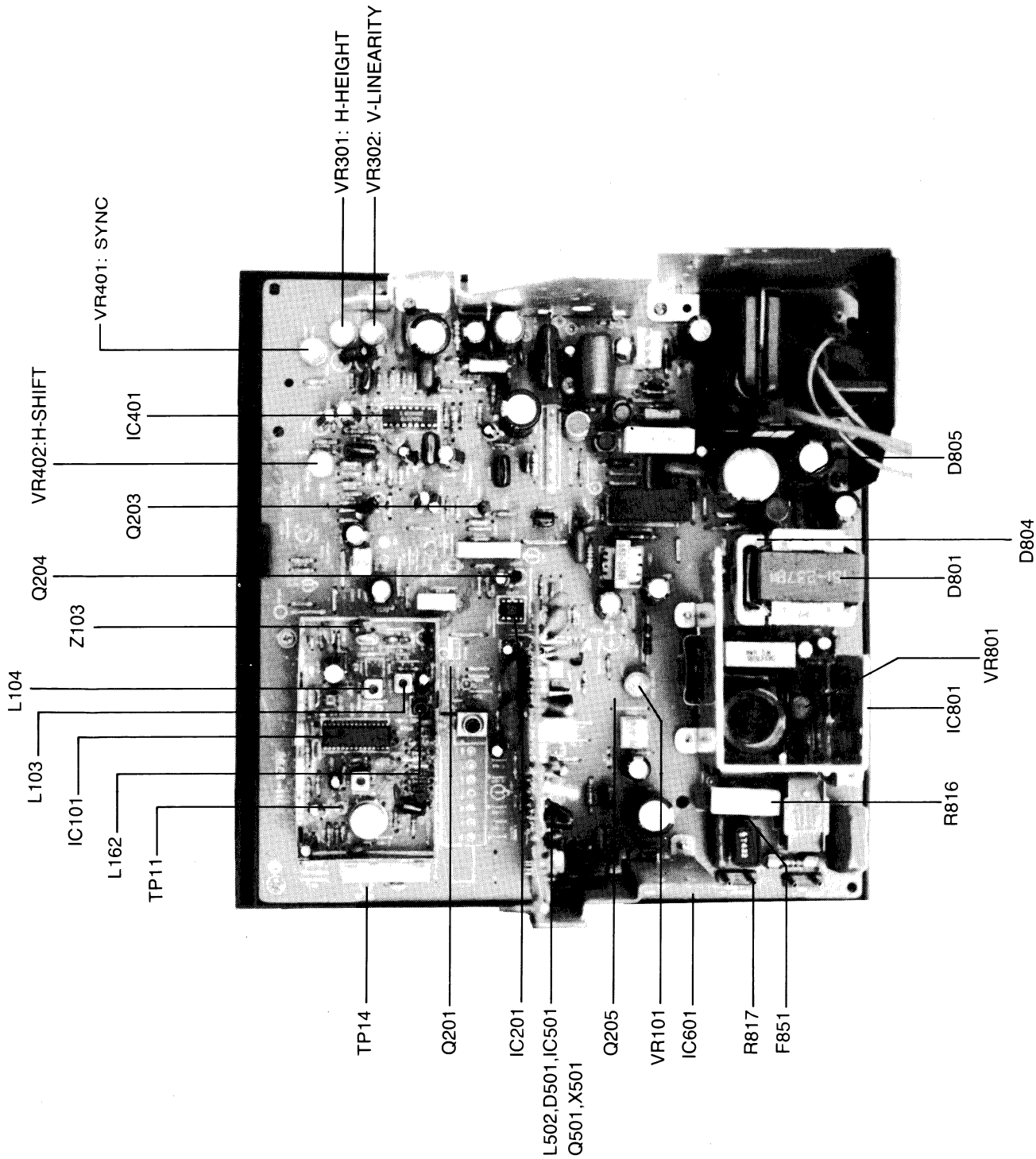


(Figure 7)



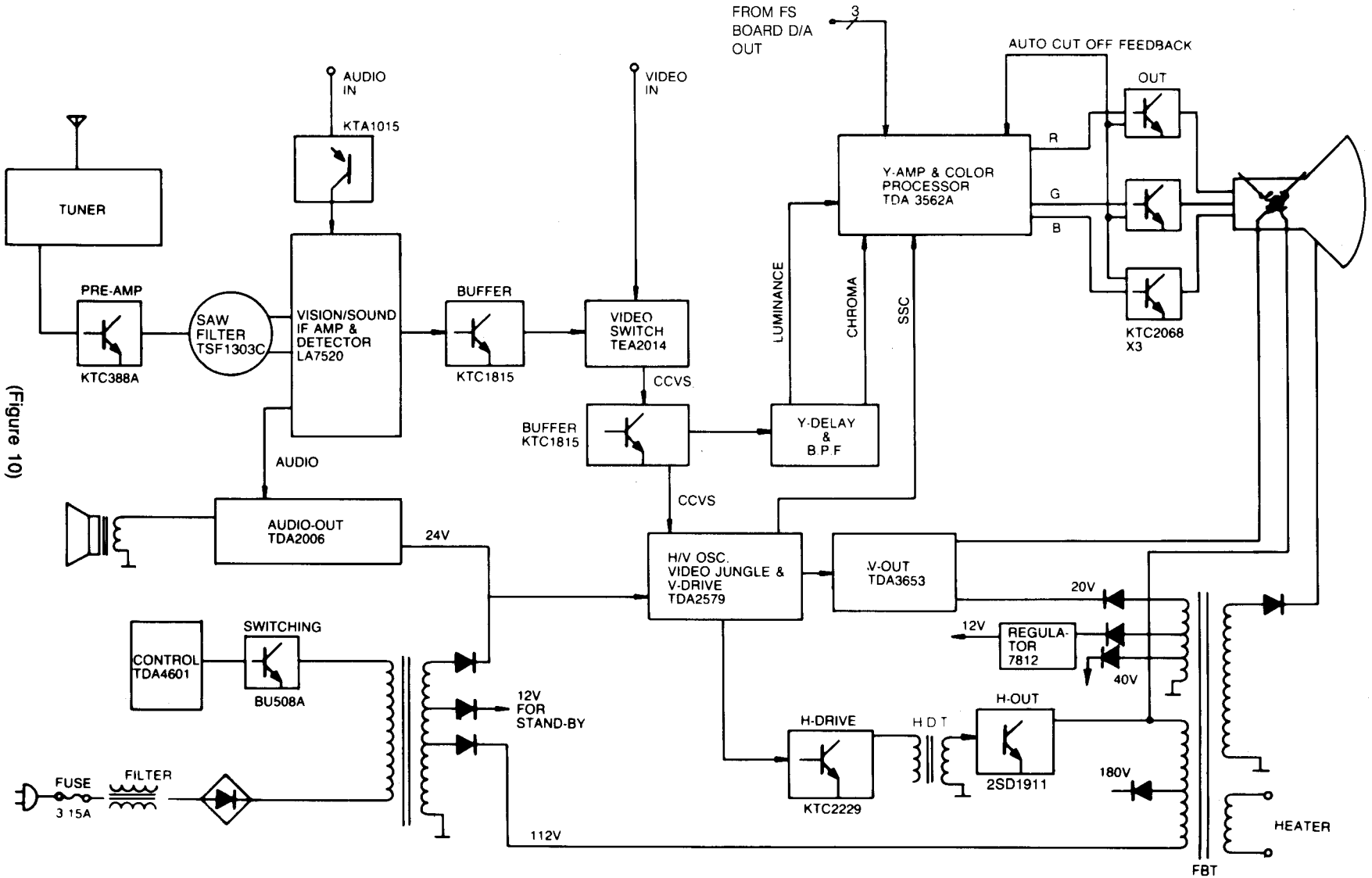
(Figure 8)

PARTS LOCATION OF MAIN BOARD



(Figure 9)

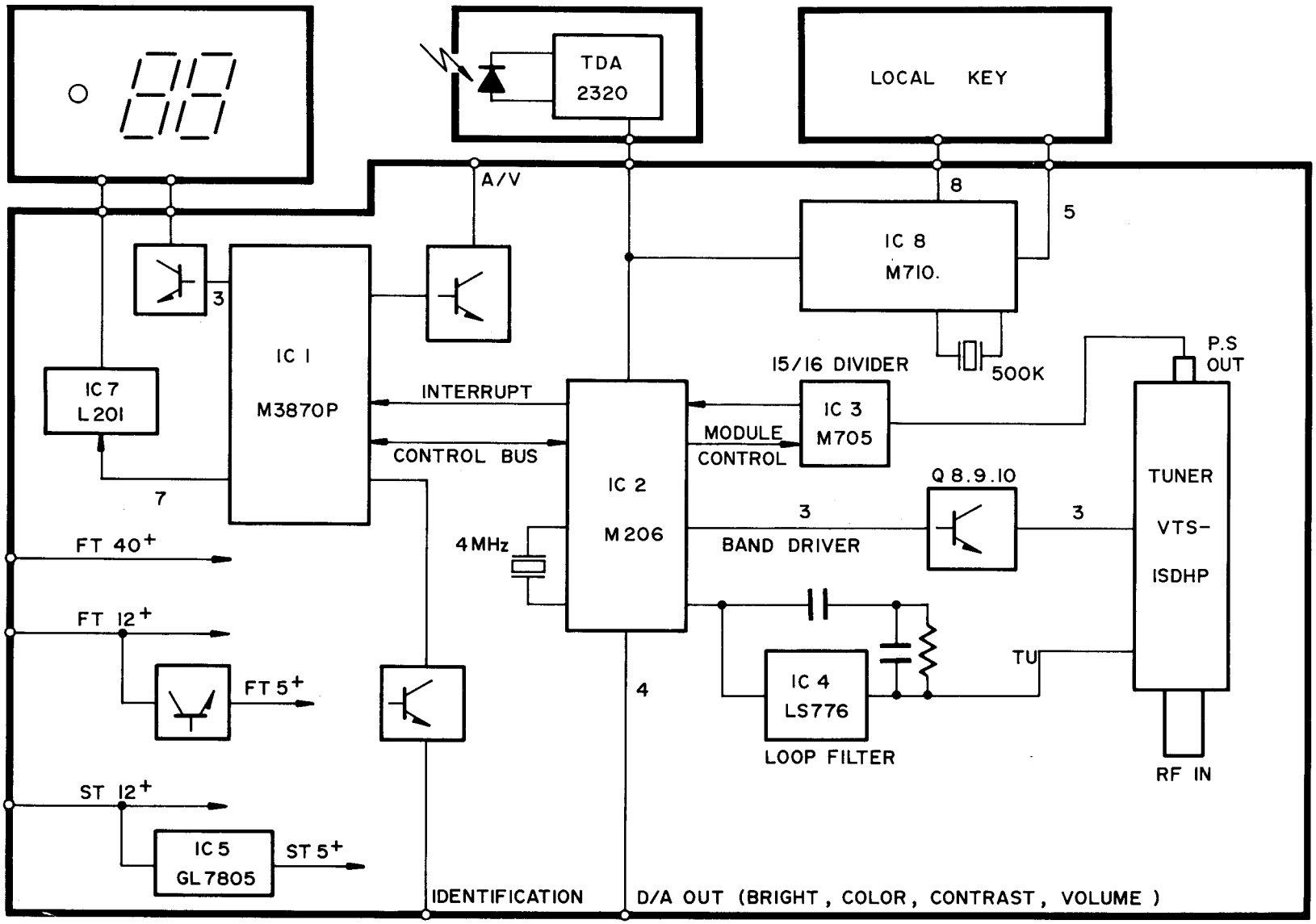
MAIN BOARD



(Figure 10)

BLOCK DIAGRAM

FS TUNING BOARD



(Figure 11)

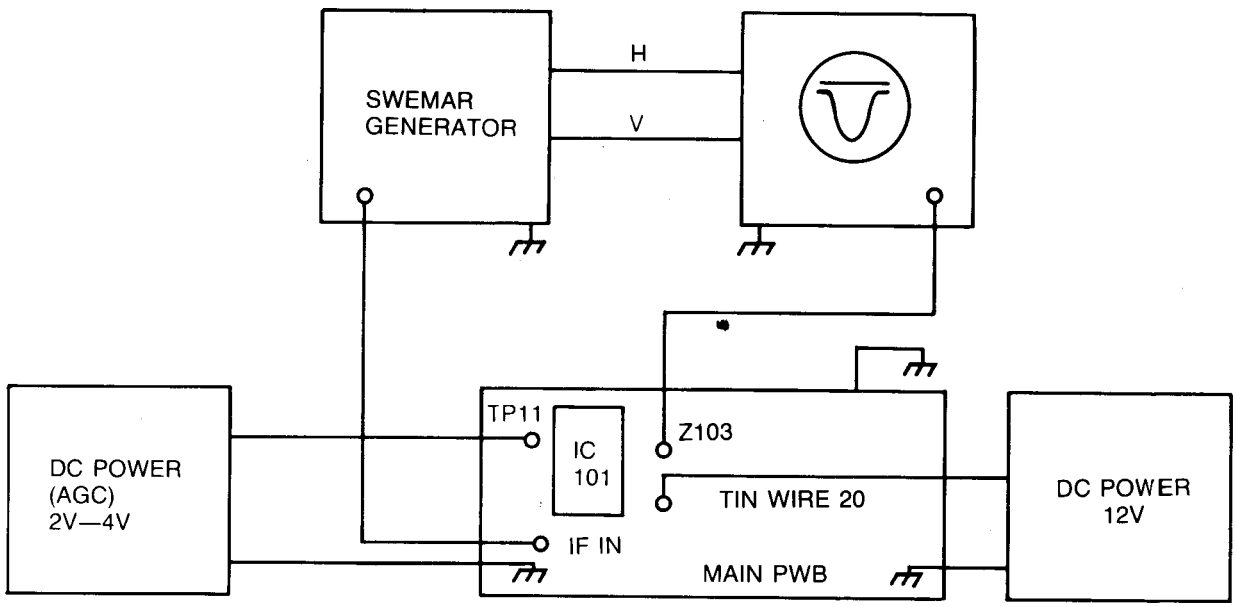
ADJUSTMENT

VIF ALIGNMENT

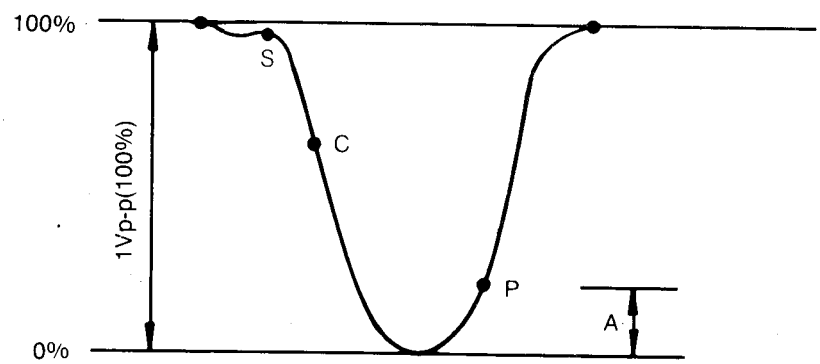
DETECTOR COIL ALIGNMENT

(1) Connect each equipment to the main board as shown in figure 12 and turn each power supplier on.

(2) Adjust L104 at main board so that the waveform should be as shown in figure 13. Adjust, that is, L104 so as to set the picture carrier to minimum. Provided that the adjustment should be performed not so as to decrease the amplitude of the whole waveform.



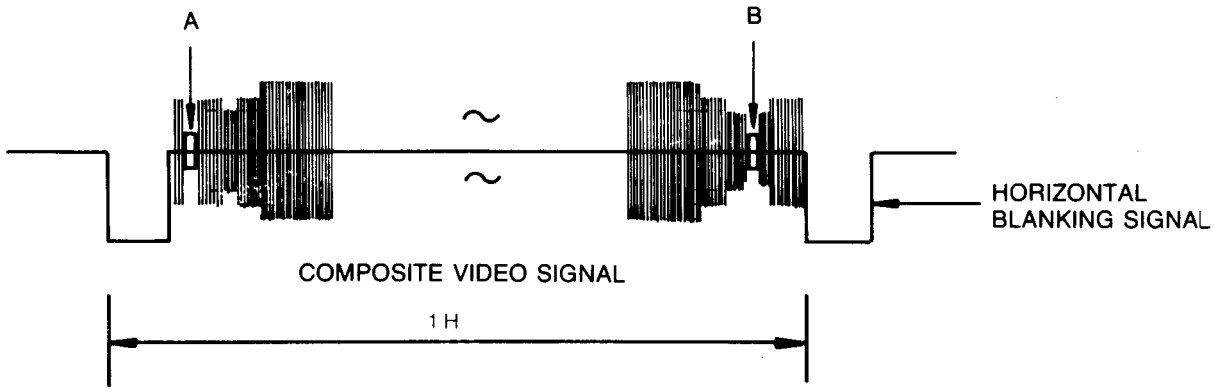
(Figure 12) Connection Diagram for VIF



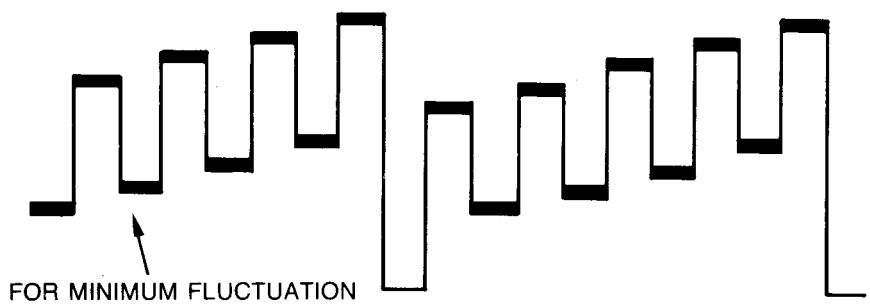
(Figure 13) L104 Alignment Waveform

PAL MATRIX ALIGNMENT

(1) Set the contrast, brightness and colour control to maximum.
(2) Connect the alignment scope to the base of Q905 on the CPT board or pin 17 of IC501.
(3) Apply the standard PAL signal (PM 5544-digital pattern, more than 60 dB) to the antenna board of the TV set.
(4) Adjust VR501 for minimum size of point A and B as shown in figure 14.
(5) Change the applying signal to the standard colour bar signal.
(6) Adjust L502 to obtain minimum fluctuation.



(Figure 14) Waveform of Alignment Scope



(Figure 15) Waveform of Alignment Scope

SCREEN VOLTAGE ALIGNMENT (WHITE BALANCE ADJUSTMENT IN LOW LIGHT)

1. Apply a colour signal more than 60 dB to the antenna terminal of the TV set.
2. Set R951 and R953 on the CPT board to the mechanical center and the COLOUR VOLUME to minimum.
3. Rotate the CONTRAST and BRIGHTNESS VOLUME gradually counterclockwise obtain picture brightness of 40—100 LUX.
4. Vary the SCREEN VOLUME right and/or left and set it to the position which a retrace line and smear don't appear on the screen.
5. Set the CONTRAST and BRIGHTNESS VOLUME to minimum and check the screen condition.

WHITE BALANCE ALIGNMENT IN HIGH LIGHT.

1. Apply a standard colour signal more than 60 dB to the antenna board of the TV set.
2. Set the COLOUR VOLUME to minimum and CONTRAST and BRIGHTNESS VOLUME to maximum.
3. Adjust R951 and R953 on the CPT board so as to obtain the white screen (colour temperature : 8500°C—9500°C)

HORIZONTAL CENTER ALIGNMENT

1. Receive a standard signal.
2. Adjust VR402 so that right position of screen is equal to the left.

TRAP COIL ALIGNMENT

Note: This alignment is for FTZ regulation, therefore to the appropriate model.

(1) Increase the output of the Swemar Generator so as to saturate the detected output.
(2) Adjust L103 so as to set the adjacent picture carrier to minimum and adjust L162 so as to set the adjacent sound carrier to minimum.
Provided that this adjustment should be performed before detector Coil Alignment.

DELAY AGC ALIGNMENT

(1) Apply the standard colour bar signal (60dB ± 1dB) to the antenna terminal of the TV set.
(2) Connect a DC voltmeter to TP14.
(3) Adjust VR101 so that the voltmeter reads 6.0V ± 0.1V.

+ B (112V) ALIGNMENT

(1) Set the contrast, brightness and colour control to maximum.
(2) Connect DVM to TP44.
(3) Adjust VR801 so that the DVM reads 112V ± 0.1V.

HORIZONTAL SYNC. ALIGNMENT

(1) Apply a standard colour signal (more than 60dB) to the antenna terminal of the TV set.
(2) Pull out S3 connector from main PWB.
(3) Short between M (IC401 pin 5) and N (GROUND)
(4) Adjust VR401 so as to obtain the best synchronization in vertical and horizontal direction.

VERTICAL LINEARITY AND AMPLITUDE ALIGNMENT

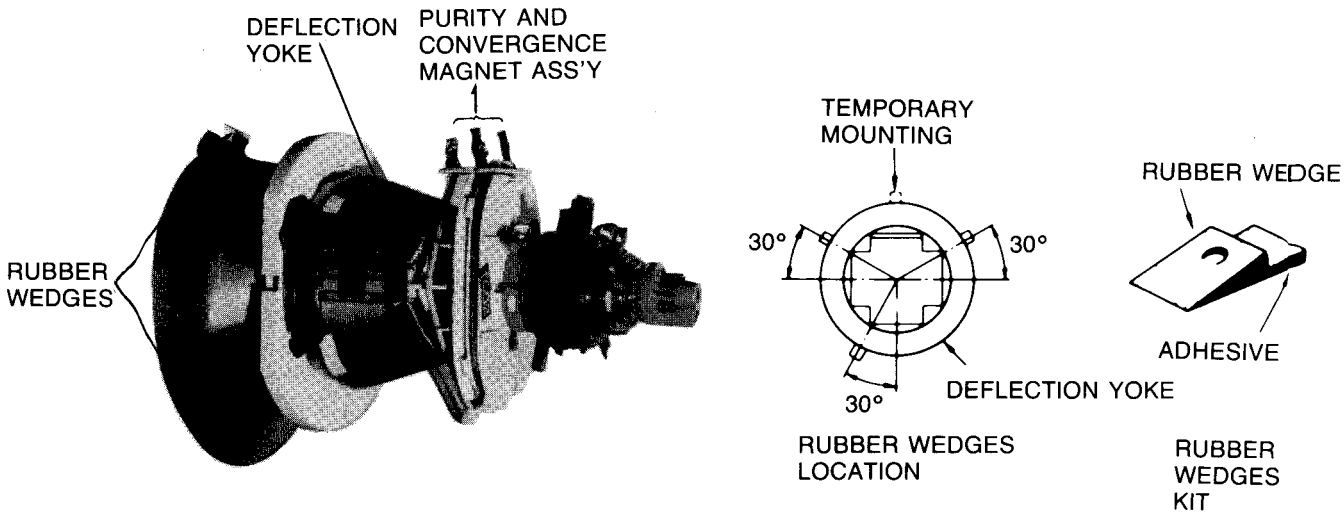
(1) Apply a standard colour signal (PM5544 digital pattern) to the antenna board of the TV set.
(2) Adjust VR301 so that the circle may be reached at position of 5mm distance from top and bottom of the effective screen (AMPLITUDE ALIGNMENT)
(3) Adjust VR301 so as to obtain the perfect circle. (LINEARITY ALIGNMENT)

PURITY AND CONVERGENCE ADJUSTMENT

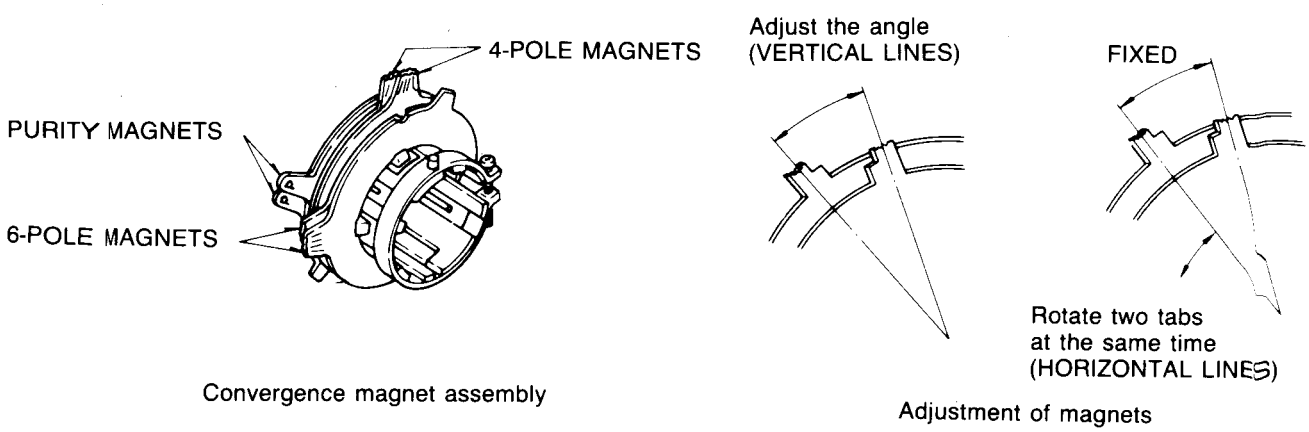
CAUTION: Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments. However, the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the need to readjust purity and convergence. Convergence magnet assembly and rubber wedges need mechanical positioning following the figure 16. Before attempting any convergence adjustments this receiver should be operated for at least fifteen minutes. IF adjustment is required the adjustments should be made in the following sequence.

COLOUR PURITY ADJUSTMENT

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Turn the CONTRAST and BRIGHTNESS controls to maximum.
3. Rotate RED & BLUE BIAS controls (R557 & R559) fully clockwise. Slowly rotate green BIAS control clockwise to produce a green raster.
4. Loosen the clamp screw holding the yoke, and slide the yoke backward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See figure 16) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically.
7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue rasters by adjusting the BIAS controls.
9. Obtain a white raster, referring to "WHITE BALANCE ADJUSTMENT".
10. Proceed with convergence adjustment.



(Figure 16)



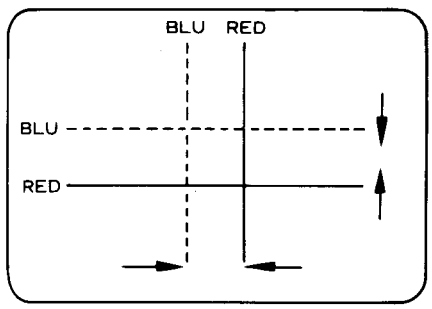
(Figure 17)

CENTER CONVERGENCE ADJUSTMENT

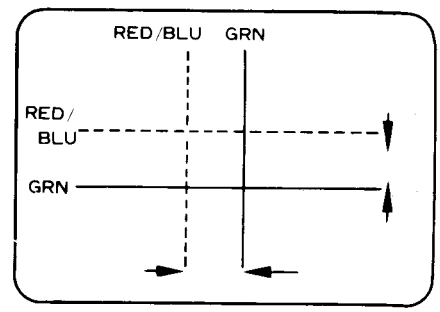
1. Receive crosshatch pattern with a colour bar signal generator.
2. Adjust the BRIGHTNESS and CONTRAST controls for well defined pattern.
3. Adjust two tabs of the 4-pole magnets to change the angle between them (See figure 17) and superimpose the red and blue vertical lines in the center area of the picture screen. (See figure 18.)
4. Turn both tabs at the same time keeping their angles constant to superimpose red and blue horizontal lines at the center of the screen. (See figure 18)
5. Adjust two tabs of 6-pole magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 1,2,3, keeping in mind red, green and blue movements because 4-Pole magnets and 6-Pole magnets interact and make not movement complex.

CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of DY to allow the yoke to tilt.
2. Adjust DY to obtain a better convergence in the circumference by orbital movement of the front of the yoke, then secure the DY in appropriate position by placing the wedges as illustrates in figure 16. Tighten screw holding the DY. Stick 3 adhesive tapes on wedges as shown in figure 16.

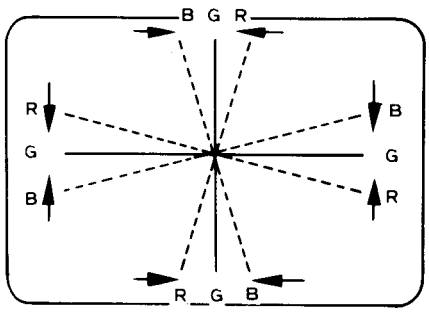


4-Pole Magnets Movement

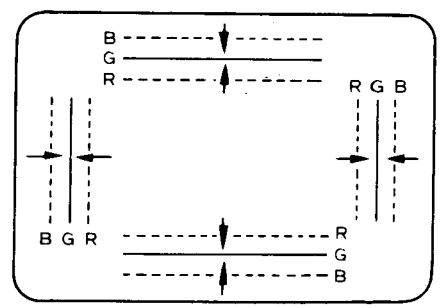


6-Pole Magnets Movement

Center Convergence by Convergence Magnets



Incline the Yoke up (or down)

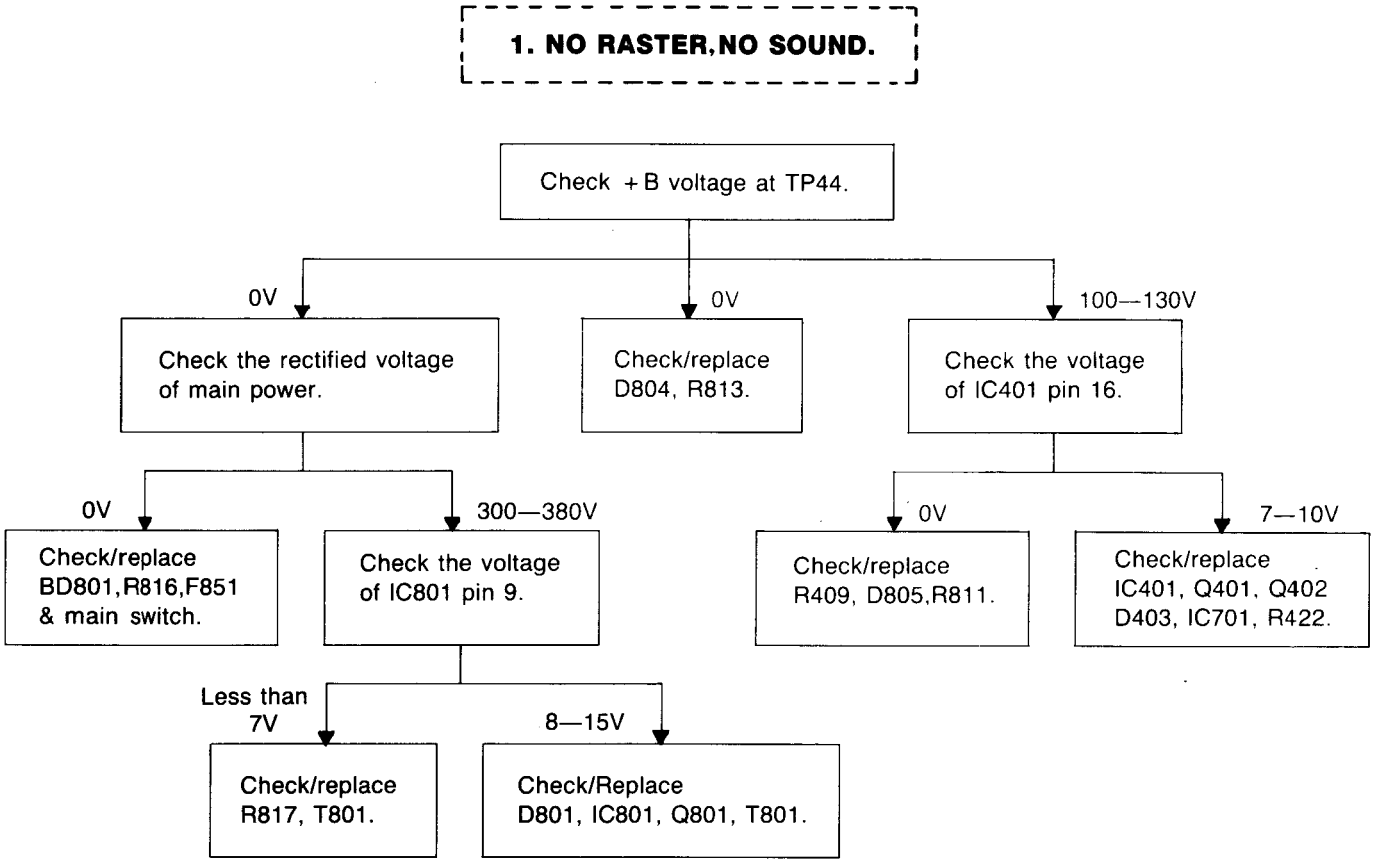


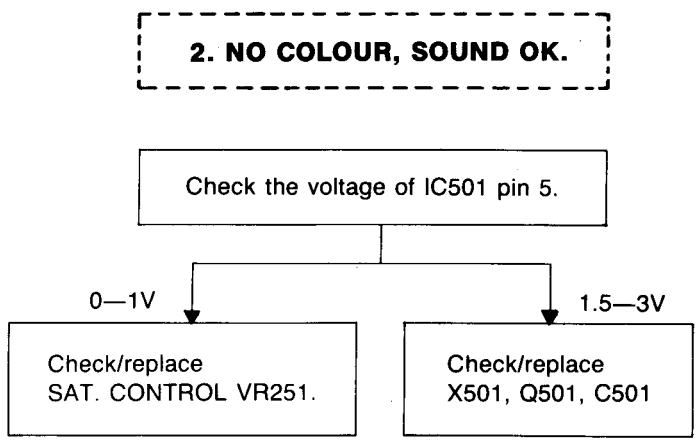
Incline the Yoke right (or left)

Circumference Convergence by Deflection Yoke

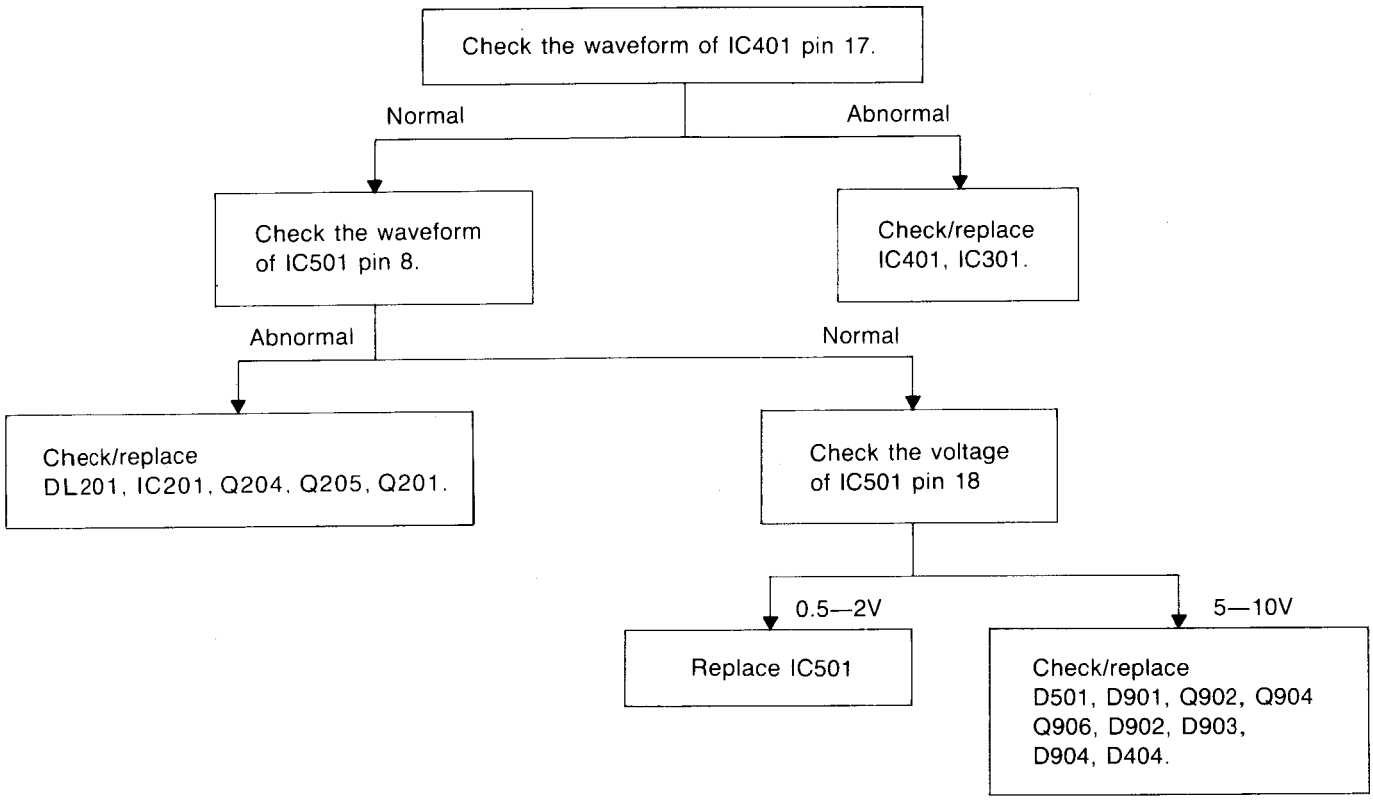
(Figure 18) DOT MOVEMENT PATTERN

TROUBLESHOOTING CHART

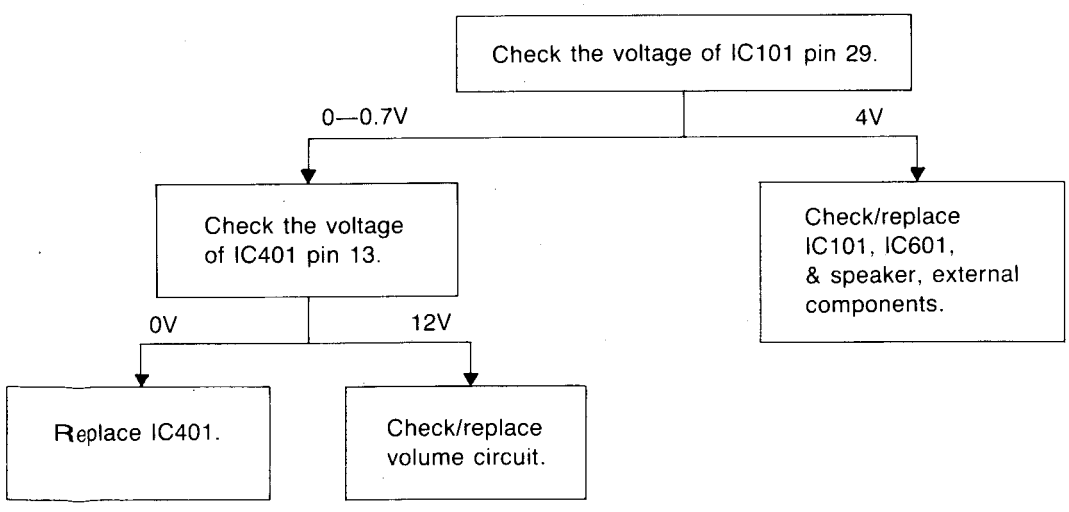




3. NO PICTURE, SOUND OK.

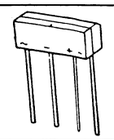


4. NO SOUND, PICTURE OK.

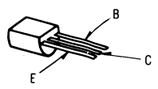
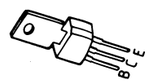
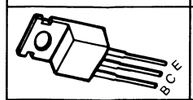
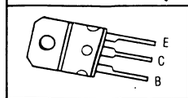
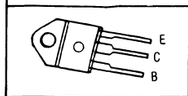


TERMINAL VIEW OF SEMICONDUCTOR

DIODE

FIGURE	DESCRIPTION	REFERENCE NO.
	1N4148TA	D101,D102,D251 D502,D503,D506 D901,D01,D03 D2,D6,D7,D8,D407
	RU-1AV	D402,D403,D451 D801,D803,D805 D806,D807
	RGP15J	D804
	IN4003TA	D301,D501,D902 D903,D904
	EQA02-06C	D1
	RB-156	D801

TRANSISTOR

	KTC1959-Y	Q2
	KTC388A	Q161
	KTC1815-O/Y/GR	Q201,Q204,Q3 Q5,Q6,Q7,Q12
	KTA1015-Y	Q203,Q205,Q501 Q907,Q1,Q8 Q9,Q10,Q11 Q3,Q14,Q15,Q16
	BF421	Q902,Q903,Q906
	KTC2068	Q901,Q903,Q905
	KTD880-Y	Q4
	2SD1911	Q402
	BU508A	Q408

IC

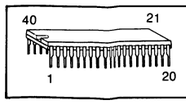
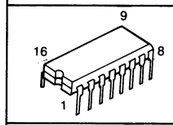
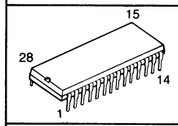
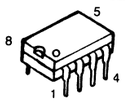
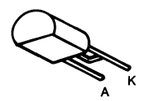
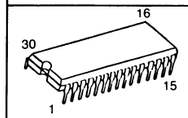
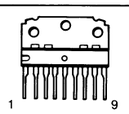
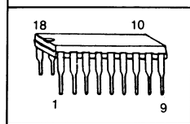
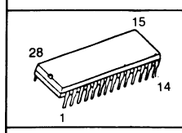
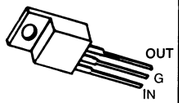
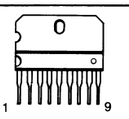
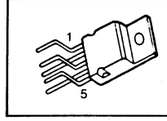
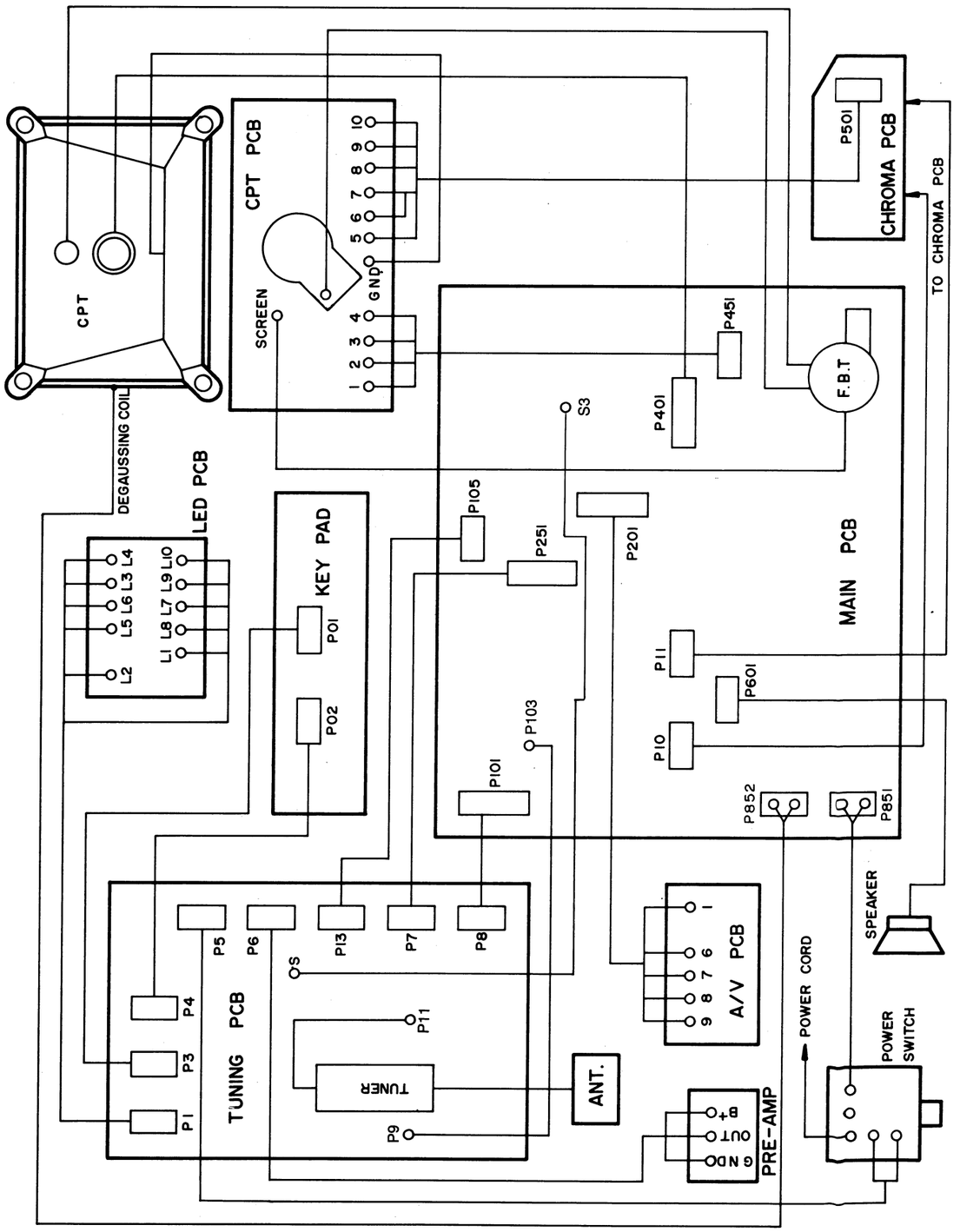
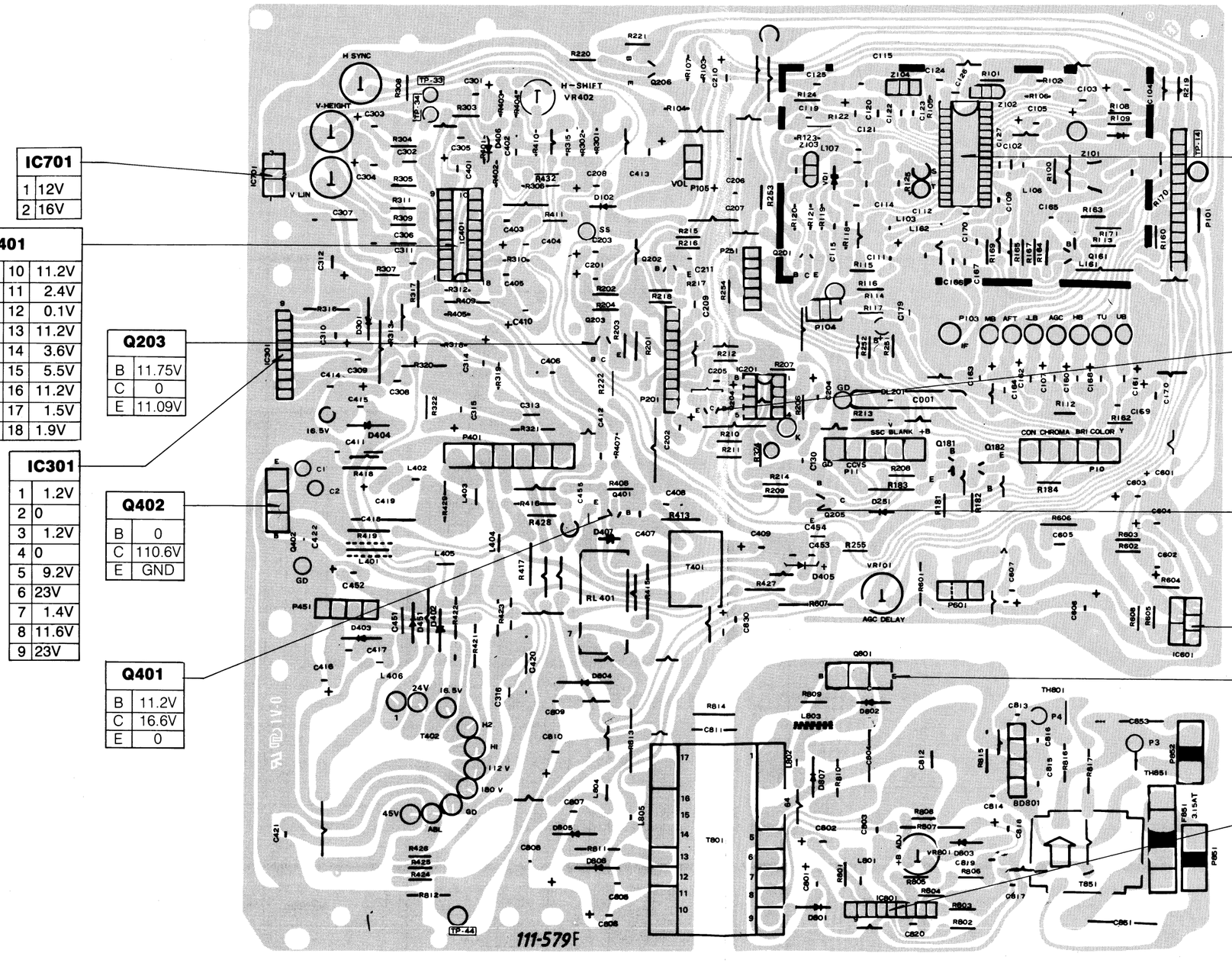
	IC M3870P	IC1

FIGURE	DESCRIPTION	REFERENCE NO.
	L201B/N2001A	IC7
	M206B1	IC2
	M710B1	IC8
	M705B1	IC3
	LS776C	IC4
	TEA2014	IC201
	KA33V	IC6
	LA7520	IC101
	TDA3653	IC301
	TDA2579	IC401
	TDA3562A	IC501
	GL7812	IC701
	GL7805	IC5
	TDA4601	IC801
	TDA2006	IC601

WIRING DIAGRAM



SEMICONDUCTOR VOLTAGE CHART



IC701

1	12V
2	16V

IC401

1	3.5V	10	11.2V
2	0.9V	11	2.4V
3	3.5V	12	0.1V
4	7.3V	13	11.2V
5	3.6V	14	3.6V
6	6.8V	15	5.5V
7	5.1V	16	11.2V
8	3.3V	17	1.5V
9	0	18	1.9V

Q203

B	11.75V
C	0
E	11.09V

IC301

1	1.2V
2	0
3	1.2V
4	0
5	9.2V
6	23V
7	1.4V
8	11.6V
9	23V

Q402

B	0
C	110.6V
E	GND

Q401

B	11.2V
C	16.6V
E	0

IC101

1	4.6V	16	3.7V
2	4.9V	17	0.4V
3	2.8V	18	3.9V
4	4.2V	19	8.6V
5	4.6V	20	8.6V
6	0	21	3.9V
7	4.7V	22	4.7V
8	4.4V	23	12V
9	4.3V	24	10.8V
10	4.3V	25	11.3V
11	4.3V	26	2.9V
12	2.8V	27	2.9V
13	0	28	2.9V
14	4.6V	29	3.5V
15	3.7V	30	5.6V

Q204

B	2.87V
C	11.8V
E	2.22V

Q205

B	11.76V
C	0
E	11.80

IC601

1	11.2V
2	11.4V
3	0
4	11.4V
5	23V

Q801

B	0
C	266V
E	0

IC801

1	4.3V
2	0.2V
3	2.2V
4	2.4V
5	7.2V
6	0
7	1.9V
8	1.9V
9	11.6V

REPLACEMENT PARTS LIST

CAUTION: Before replacing any of these components, read carefully the "SAFETY PRECAUTIONS" on page 3. Do not degrade the safety of the receiver through improper servicing.

ABBREVIATIONS: Capacitors ..... CC: Ceramic (TC), MYL: Mylar, CE: Electrolytic, CK: Ceramic (Hi-K)
Resistors ..... RD: Carbon film, RS: Metal Oxide film, RN: Metal film, RV: Variable or Semifix

NOTE: 1. R marked parts at the remarks mean the parts which are the serviceable parts.
S marked parts at the remarks mean the parts which are the spare parts and the serviceable parts.
2. All CC and CP Capacitors are ±20%, 50 Volts and all resistors, ±5%, 1/8W unless otherwise noted.

1. MAIN PCB (110-956A)

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
		RESISTOR	
R101	01157083	RD, 270 ohm	R
R102	01157093	RD, 680 ohm	R
R103	01157081	RD, 220 ohm	R
R105	01157097	RD, 1K ohm	R
R106	01157081	RD, 220 ohm	R
R107	01157119	RD, 8.2K ohm	R
R108	01157123	RD, 12K ohm	R
R109	01157105	RD, 2.2K ohm	R
R111	01157103	RD, 1.8K ohm	R
R112	01157137	RD, 47K ohm	R
R113	01157097	RD, 1K ohm	R
R115	01157103	RD, 1.8K ohm	R
R121	01157097	RD, 1K ohm	R
R122	01157105	RD, 2.2K ohm	R
R123	01157081	RD, 220 ohm	R
R124	01157081	RD, 220 ohm	R
R163	01157081	RD, 220 ohm	R
R164	01157115	RD, 5.6K ohm	R
R165	01157097	RD, 1K ohm	R
R167	01157055	RD, 18 ohm	R
R169	01157055	RD, 18 ohm	R
R201	01157131	RD, 27K ohm	R
R202	01157093	RD, 680 ohm	R
R203	01157099	RD, 1.2K ohm	R
R204	01157121	RD, 10K ohm	R
R208	01157121	RD, 10K ohm	R
R209	01157121	RD, 10K ohm	R
R210	01157087	RD, 390 ohm	R
R211	01157097	RD, 1K ohm	R
R212	01157070	RD, 75 ohm	R
R213	01157109	RD, 3.3K ohm	R
R214	01157125	RD, 15K ohm	R
R222	01157127	RD, 18K ohm	R
R255	01157153	RD, 220K ohm	R
R301	01157115	RD, 5.6K ohm	R
R302	01157123	RD, 12K ohm	R
R303	01157095	RD, 820 ohm	R
R304	01157071	RD, 82 ohm	R
R305	01157115	RD, 5.6K ohm	R
R306	01157097	RD, 1K ohm	R
R307	01157157	RD, 330K ohm	R
R308	01157117	RD, 6.8K ohm	R
R309	01157125	RD, 15K ohm	R
R310	01157081	RD, 220 ohm	R
R311	01157153	RD, 220K ohm	R
R312	01157097	RD, 1K ohm	R
R313	01157117	RD, 6.8K ohm	R
R315	01157161	RD, 470K ohm	R
R316	01154085	RD, 330 ohm 1/2W	R
R317	01157121	RD, 10K ohm	R
R318	01157125	RD, 15K ohm	R
R319	01157149	RD, 150K ohm	R
R320	01516024	RN, 0.91 ohm 1/2W	R
R321	01154085	RD, 330 ohm 1/2W	R
R322	01157105	RD, 2.2K ohm	R
R401	01157049	RD, 10 ohm	R
R402	01157121	RD, 10K ohm	R
R403	01157145	RD, 100K ohm	R
R404	01157097	RD, 1K ohm	R
R405	01157117	RD, 6.8K ohm	R
R407	01157081	RD, 220 ohm	R
R409	01154107	RD, 2.7K ohm 1/2W	R
R410	01157137	RD, 47K ohm	R
R411	01157129	RD, 22K ohm	R
R413	01154101	RD, 1.5K ohm 1/2W	R
R415	01332073	RS, 100 ohm 1W	R
R416	01157130	RD, 24K ohm	R
R417	01321099	RS, 1.2K ohm 1/2W	R
R418	01325079	RS, 180 ohm 1/2W	R
R419	01154161	RD, 470K ohm 1/2W	R
R421	180-305A	Fusible, 10 ohm 1/2W	S
R422	180-140R	RS, 2W 2 ohm	S
R423	180-142F	RW, 2.2 ohm 5W	S
R424	01157136	RD, 43K ohm	S
R425	01157139	RD, 56K ohm	R
R426	01157097	RD, 1K ohm	R
R429	01325105	RS, 2.2K ohm	R
R602	01157145	RD, 100K ohm	R
R603	01157145	RD, 100K ohm	R
R604	01157119	RD, 8.2K ohm	R
R605	01157145	RD, 100K ohm	R
R606	01516033	RN, 2.2 ohm 1/2W	R
R607	01521049	RN, 10 ohm 1W	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
R608	01157145	RD, 100K ohm	R
R801	01518021	RN, 0.68 ohm	R
R802	01157145	RD, 100K ohm	R
R803	01157081	RD, 220 ohm	R
R804	01157099	RD, 1.2K ohm	R
R805	01157123	RD, 12K ohm	R
R806	01157121	RD, 10K ohm	R
R807	01332073	RS, 100 ohm 1W	R
R808	01157155	RD, 270K ohm	R
R809	01157073	RD, 100 ohm	R
R810	180-142E	RW, 180 ohm 5W	S
R811	180-140B	Fusible 1 ohm 1/2W	S
R812	01154145	RD, 100K ohm 1/2W	R
R813	180-140B	Fusible 1 ohm 1/2W	S
R814	180-042B	COMP GF 475M ohm 1/2W	S
R815	01157167	RD, 820K ohm	S
R816	180-142V	RW, 4.7 ohm 5W	R
R817	01325107	RS, 2.7K ohm 1/2W	R
VR101	180-021H	RV, 10KB 0.15W	S
VR301	180-021H	RV, 10KB 0.15W	S
VR302	180-021R	RV, 220KB 0.15W	S
VR401	180-021H	RV, 10KB 0.15W	S
VR402	180-021Q	RV, 100KB 0.15W H-SHIFT	S
VR801	180-021C	RV, 4.7KB 0.15W	S
J37	01335033	RS, 2.2 ohm 2W	R
		CAPACITOR	
C102	08200760	CK, 1000pF/50V ±10%	R
C103	08110313	CE, 10uF/16V	R
C104	08110313	CE, 10uF/16V	R
C105	08110505	CE, 0.47uF	R
C106	08200760	CK, 1000pF/50V ±10%	R
C107	08110511	CE, 4.7uF	R
C109	08200972	CK, 0.01uF +80%, -20%	R
C111	08110505	CE, 0.47uF/50V	R
C112	08300708	CC, 6pF/50V ±0.5P	R
C119	08200972	CK, 0.01uF/50V +80%, -20%	R
C120	08200972	CK, 0.01uF/50V +80%, -20%	R
C121	08110319	CE, 100uF/16V	R
C122	08300721	CC, 24pF/50V	R
C123	08200972	CK, 0.01uF/50V +80%, -20%	R
C124	08200972	CK, 0.01uF/50V +80%, -20%	R
C125	08200972	CK, 0.01uF/50V +80%, -20%	R
C126	08300708	CC, 6pF/50V ±0.5P	R
C127	08200760	CK, 1000pF/50V ±10%	R
C163	08110317	CE, 47uF 16V	R
C165	08200972	CK, 0.01uF/50V +80%, -20%	R
C166	08200972	CK, 0.01uF/50V +80%, -20%	R
C167	08300110	CC, 8pF/50V ±0.5P	R
C170	08300110	CC, 8pF/50V ±0.5P	R
C201	08110313	CE, 10uF/16V	R
C203	08110313	CE, 10uF/16V	R
C204	08110313	CE, 10uF/16V	R
C205	08110313	CE, 10uF/16V	R
C206	02140321	CE, 220uF/16V	R
C207	08200972	CK, 0.01uF/50V +80%, -20%	R
C208	08110511	CE, 4.7uF	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
C301	08110313	CE, 10uF/16V	R
C302	02705337	MYL, 0.1uF/100V ±10%	R
C303	08110315	CE, 22uF/16V	R
C304	08110507	CE, 1uF	R
C305	08200740	CK, 150pF/50V ±10%	R
C306	181-155A	MR, 0.22uF/100V ±5%	S
C307	181-155B	MR, 0.33uF/100V ±5%	S
C308	02705331	MYL, 0.01uF/100V ±10%	R
C309	08200752	CK, 470pF/50V ±10%	R
C310	02140419	CE, 100uF/25V	R
C311	02705331	MYL, 0.01uF/100V ±10%	R
C312	02140425	CE, 1000uF/25V	R
C313	02705335	CQ, 0.047uF/100V ±10%	R
C314	08110507	CE, 1uF	R
C315	02140327	CE, 2200uF/16V	R
C316	08110417	CE, 47uF/25V	R
C401	08110319	CE, 100uF/16V	R
C402	02706537	MYL, 0.1uF/100V ±10%	R
C403	181-074J	PSR, 0.0033uF/50V ±5%	
C404	08110511	CE, 4.7uF	R
C405	02706537	MYL, 0.1uF/100V ±10%	R
C406	02706537	MYL, 0.1uF/100V ±10%	R
C407	08200748	CK, 330pF/50V ±10%	R
C408	02706536	CQ, 0.068uF/100V ±10%	R
C409	02140421	CE, 220uF/25V	R
C410	08110319	CE, 100uF/16V	R
C411	181-131A	MPP, 0.0068uF 1.6KV ±5%	S
C412	02706531	MYL, 0.01uF/100V ±10%	R
C413	08110319	CE, 100uF/16V	R
C414	02140423	CE, 470uF/25V	R
C415	08201046	CK, 270pF/500V ±10%	R
C416	02140813	CE, 10uF/250V	R
C417	08201046	CK, 270pF/500V ±10%	R
C418	181-059M	PP, 0.43uF/200V ±5%	S
C419	08110707	CE, 1uF/160V	R
C420	181-059D	PP, 0.047uF/200V ±10%	S
C421	181-059D	PP, 0.047uF/200V ±10%	S
C451	02211060	CK, 1000pF/500V ±10%	S
C452	08110518	CE, 47uF	R
C601	08110511	CE, 4.7uF	R
C602	02705331	CQ, 0.01uF/100V ±10%	R
C603	08110417	CE, 47uF/25V	R
C604	08110413	CE, 10uF/25V	R
C605	02705337	MYL, 0.1uF/100V ±10%	R
C606	02140425	CE, 1000uF/25V	R
C607	02140323	CE, 470uF/16V	R
C801	08110417	CE, 47uF/25V	R
C802	08110319	CE, 100uF/16V	R
C803	181-057Q	PE, 0.0082uF/100V ±5%	S
C804	181-031E	MPP, 0.0022uF/2KV ±5%	S
C805	08201046	CK, 270pF/500V ±10%	R
C806	02104325	CE, 1000uF/16V	R
C807	08201046	CK, 270pF/500V ±10%	R
C808	02140425	CE, 1000uF/25V	R
C809	08201046	CK, 270pF/500V ±10%	R
C810	02140721	CE, 220uF/160V	R
C811	181-157A	CK, 0.0022uF/4KV ±20%	S
C812	181-124B	CE, 200uF/400V	S
C813	08201060	CK, 0.001uF/500V ±10%	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
C814	08201060	CK, 0.001uF/500V ±10%	R
C815	08201060	CK, 0.001uF/500V ±10%	R
C816	08201060	CK, 0.001uF/500V ±10%	R
C817	08110313	CE, 10uF/16V	R
C818	08110507	CE, 1uF	R
C819	181-057Q	PE, 0.0082uF/100V ±5%	S
C820	08300136	CC, 100pF/50V ±10%	R
C830	02140421	CE, 220uF/25V	R
C851	181-151C	BUE, 0.47uF/AC250V	S
C853	181-208A	MYL, 0.15uF/100V ±20%	S
		COIL AND TRANSFORMER	
L102	150-109N	COIL, PEAKING SPL 15uH	S
L103	150-327N	COIL, APC TRAP (PC04X)	S
L104	150-327M	COIL, VIF (PC04X)	S
L106	150-327P	COIL, SAW MATCHING	S
L107	150-109N	COIL, PEAKING SPL 15uH	S
L161	150-167J	COIL, CHOKE 0.85uH	S
L162	150-381A	COIL, ASC TRAP (PC04X)	S
L401	125-022B	CORE, FERRITE SM-2CRHW 3.5 × 12 × 1B	
L402	150-1096	COIL, PEAKING SPL 6800uH	S
L403	150-224C	COIL, LINEARITY	S
L404	150-166G	COIL, CHOKE 10uH	S
L405	150-166G	COIL, CHOCK 10uH	S
L801	150-1092	COIL, PEAKING SPL 1uH	S
L802	04040025	COIL, PEAKING SPL 1uH	S
L803	125-022B	CORE, FERRITE SM-2CRHW 3.5 × 12 × 1B	
L804	150-235E	HOR. CHOKE COIL, 1MH (1A)	S
T401	151-116B	TRANS, H. DRIVE (PC04X)	S
T402	154-125A	FBT	S
T801	151-237B	TRANS, SMPS (12V)	S
T851	150-123A	COIL, LINE B82723-G2-C82(27MH)	S
DL201	150-424A	COIL, DELAY DLC-2062 4.43	S
		DIODE	
D101	06220226	1N4148TA	S
D102	06200226	1N4148TA	S
D251	06200226	1N4148TA	S
D301	06220070	IN4003TA	S
D402	06200203	RU-1AV	S
D403	06200203	RU-1AV	S
D404	06200287	ERB24-06D	S
D407	06200115	KDS1553	S
D451	06200203	RU-1AV	S
D801	06200203	RU-1AV	S
D803	06200203	RU-1AV	S
D804	06220202	RGP15J	S
D805	06220203	RU-1AV	S
D806	06200203	RU-1AV	S
D807	06200203	RU-1AV	S
BD801	162-045A	DIODE, BRIDGE, RB-156	S
		TRANSISTOR	
Q161	06120025	KTC388A	S
Q201	06120168	KTC1815-O	S
Q203	06100083	KTA1015-O	S
Q204	06120168	KTC1815-O	S
Q205	06100083	KTA1015-O	S
Q401	06120161	KTC2229-O	S
Q402	06170018	TR, BU508D	S
Q801	06170015	TR, BU508A	S
		IC	
IC101	06300357	IC, LA7520	S
IC201	06300385	IC, TEA2014	S
IC301	06300383	IC, TDA3653	S
IC401	06300381	IC, TDA2579	S
IC601	06300386	IC, TDA2006	S
IC701	06300218	IC, GL7812	S
IC801	06300323	IC, TDA4601	S
		MISCELLANEOUS	
Z101	166-089A	FILTER, SAW TSFB03C	R
Z102	166-032D	FILTER, CERAMIC CDA5.5MD	R
Z103	166-031B	TRAP, CERAMIC TPS5.5MB	R
Z104	166-002D	FILTER, CERAMIC SFE5.5MB	R
P101	366-039N	PIN, MOLEX 5045-14A	R
P105	366-034D	PIN, MOLEX 5273-02A	R
P201	366-039J	PIN, MOLEX 5045-10A	R
P251	366-039E	PIN, MOLEX 5045-06A	R
P451	366-034B	PIN, MOLEX 5273-04A	R
P601	366-034D	PIN, MOLEX 5273-02A	R
P851	366-043B	PIN, ASSY PLUG (2P)	R
P852	366-043B	PIN, ASSY PLUG (2P)	R
P10	366-067C	PIN, MOLEX 5281-05A 5.08 LOCK	R
P11	366-067C	PIN, MOLEX 5281-05A 5.08 LOCK	R
TH801	163-020A	PTC, Q63100-P2462-J29	S
TH851	163-021A	PTC, Q63100-P2332T432	S
F851	131-027A	FUSE, GLASS TUBE MINI 3.15A/250V	S
RL401	141-005B	RELAY, VS12MB	R

2. CHROMA PCB (110-676A)

		RESISTOR	
R501	01157087	RD, 390 ohm	R
R502	01157073	RD, 100 ohm	R
R504	01157087	RD, 390 ohm	R
R507	01157099	RD, 1.2K ohm	R
R509	01157087	RD, 390 ohm	R
R510	01157097	RD, 1K ohm	R
R511	01157127	RD, 18K ohm	R
R512	01157121	RD, 10K ohm	R
R513	01157151	RD, 180K ohm	R
R514	01157103	RD, 1.8K ohm	R
R515	01157147	RD, 120K ohm	R
R516	01157103	RD, 1.8K ohm	R
R517	01157121	RD, 10K ohm	R
R518	01157109	RD, 3.3K ohm	R
R520	01157151	RD, 180 ohm	R
R521	01157167	RD, 820K ohm	R
R523	01157097	RD, 1K ohm	R
R524	01157093	RD, 680 ohm	R
R525	01157105	RD, 2.2K ohm	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
R526	01157103	RD, 1.8K ohm	R
R527	01157070	RD, 75 ohm	R
VR501	180-021A	VR, 1KB	S
		CAPACITOR	
C501	08200972	CK, 0.01uF +80%, -20%,	R
C502	08200972	CK, 0.01uF +80%, -20%	R
C504	08300718	CC, 18pF ±5%	R
C505	02705334	MYL, 0.033uF/100V ±10%	R
C506	08110507	CE, 1uF	R
C507	08200972	CK, 0.01uF +80%, -20%	R
C508	02705334	MYL, 0.033uF/100V ±10%	R
C509	181-155C	MR, 100V 0.47uF	S
C510	181-155C	MR, 100V 0.47uF	S
C511	08110511	CE, 4.7uF	R
C512	08110313	CE, 10uF/16V	R
C513	181-155C	MR, 0.47uF/100V	S
C514	08110503	CE, 0.22uF	R
C515	08110511	CE, 4.7uF ±5%	R
C516	08110511	CE, 4.7uF ±5%	R
C517	08200972	CK, 0.01uF +80%, -20%	R
C518	08110511	CE, 4.7uF ±5%	R
C519	08110317	CE, 47uF/16V	R
C520	08110319	CE, 100uF/16V	R
C521	08110505	CE, 0.47uF/100V	R
		COIL	
L501	150-109N	COIL, PEAKING SPL 15uH	S
L502	150-327S	COIL, 1H DELAY ADJ	S
DL502	175-013A	DELAY LINE 1H CD-11 P1D	
		DIODE	
D501	06220070	IN4003TA	S
D502	06220226	1N4148TA	S
D503	06220226	1N4148TA	S
D506	06220226	1N4148TA	S
		TRANSISTOR	
Q501	06100084	KTA1015-Y	S
		I.C.	
IC501	06300378	IC, TDA3562A	S
		MISCELLANEOUS	
X501	156-007A	OSC, X-TAL 8,876MHz	R
P501	366-039E	PIN, MOLEX 5045-06A	R
P504	305-053C	HOUSING, MOLEX 2767-05AH	R
P505	305-053C	HOUSING, MOLEX 2767-05AH	R

3. CPT PCB (110-675B)

		RESISTOR	
R901	01157099	RD, 1.2K ohm	R
R902	01157084	RD, 300 ohm	R
R903	01157061	RD, 33 ohm	R
R904	01154165	RD, 680K ohm 1/2W	R
R905	01157099	RD, 1.2K ohm	R
R906	01154101	RD, 1.5K ohm 1/2W	R
R907	01332123	RS, 12K ohm 1W	R
R908	01157099	RD, 1.2K ohm	R
R909	01157084	RD, 300 ohm	R
R910	01157061	RD, 33 ohm	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
R911	01154165	RD, 680K ohm 1/2W	R
R912	01157099	RD, 1.2K ohm	R
R913	01154101	RD, 1.5K ohm 1/2W	R
R914	01332123	RS, 12K ohm 1W	R
R915	01157099	RD, 1.2K ohm	R
R916	01157084	RD, 300 ohm	R
R917	01157061	RD, 33 ohm	R
R918	01154165	RD, 680K ohm 1/2W	R
R919	01157099	RD, 1.2K ohm	R
R920	01154101	RD, 1.5K ohm 1/2W	R
R921	01332123	RS, 12K ohm 1W	R
R922	01157082	RD, 240 ohm	R
R923	01157101	RD, 1.5K ohm	R
R924	01157169	RD, 1M ohm	R
R925	01154161	RD, 470K ohm 1/2W	R
R951	180-051G	RV, 1KB	S
R952	01157089	RD, 470 ohm	R
R953	180-051G	RV, 1KB	S
		CAPACITOR	
C1	08110311	CE, 4.7uF	R
C901	08300154	CC, 560pF ±5%	R
C902	08300147	CC, 330pF ±5%	R
C903	08300154	CC, 560pF ±5%	R
C904	08300147	CC, 330pF ±5%	R
C905	08300154	CC, 560pF ±5%	R
C906	08300147	CC, 330pF ±5%	R
C907	181-131D	MPP, 0.01uF/1.6KV ±5%	S
C908	181-057B	PE, 0.022uF/100V ±10%	S
		DIODE	
D901	06200226	1N4148TA	S
D902	06220070	IN4003TA	S
D903	06220070	IN4003TA	S
D904	06220070	IN4003TA	S
		TRANSISTOR	
Q901	06120220	KTC2068	S
Q902	06170023	TR, BF421	S
Q903	06120220	KTC2068	S
Q904	06170023	TR, BF421	S
Q905	06120220	KTC2068	S
Q906	06170023	TR, BF421	S
Q907	06100084	KTA1015-Y	S
		MISCELLANEOUS	
CPT SOCKET	381-094A	SOCKET, CPT HPS-009S010	R

4. TUNING PCB (110-957A)

		RESISTOR	
R1	01157121	RD, 10K ohm	R
R2	01157121	RD, 10K ohm	R
R3	01157073	RD, 100 ohm	R
R4	01157115	RD, 5.6K ohm	R
R5	01157113	RD, 4.7K ohm	R
R6	01157073	RD, 100 ohm, 1/2W	R
R7	01157121	RD, 100K ohm	R
R8	01157115	RD, 5.6K ohm	R
R9	01332049	RS, 10 ohm, 1W	R

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
R10	01332057	RS, 22 ohm 1W	R
R11	01157101	RD, 1.5K ohm	R
R12	01157121	RD, 100K ohm	R
R13	01157137	RD, 47K ohm	R
R14	01157121	RD, 100K ohm	R
R15	01157121	RD, 100K ohm	R
R16	01157121	RD, 100K ohm	R
R17	01157115	RD, 5.6K ohm	R
R18	01157129	RD, 22K ohm	R
R19	01157129	RD, 22K ohm	R
R20	01157095	RD, 820 ohm	R
R21	01157107	RD, 2.7K ohm	R
R22	01157121	RD, 100K ohm	R
R23	01157121	RD, 100K ohm	R
R24	01157121	RD, 100K ohm	R
R25	01157121	RD, 100K ohm	R
R26	01157121	RD, 100K ohm	R
R27	01157121	RD, 100K ohm	R
R28	01157119	RD, 8.2K ohm	R
R29	01157103	RD, 1.8K ohm	R
R30	01157121	RD, 100K ohm	R
R31	01157082	RD, 240 ohm	R
R33	01160115	RD, 5.6K ohm	R
R34	01157113	RD, 4.7K ohm	R
R35	01157121	RD, 100K ohm	R
R36	01157110	RD, 3.6K ohm	R
R37	01157105	RD, 2.2K ohm	R
R38	01157117	RD, 6.8K ohm	R
R41	01157089	RD, 470 ohm	R
R42	01157089	RD, 470 ohm	R
R43	01157077	RD, 150 ohm	R
R46	01157095	RD, 820 ohm	R
R47	01157113	RD, 4.7K ohm	R
R48	01157115	RD, 5.6K ohm	R
R50	01157110	RD, 3.6K ohm	R
R54	01157095	RD, 820 ohm	R
R55	01157110	RD, 3.6K ohm	R
R56	01157105	RD, 2.2K ohm	R
R57	01157075	RD, 120 ohm	R
R60	01157133	RD, 33K ohm	R
R61	01157133	RD, 33K ohm	R
R62	01157133	RD, 33K ohm	R
R63	01157133	RD, 33K ohm	R
R64	01157133	RD, 33K ohm	R
R65	01157133	RD, 33K ohm	R
R66	01157133	RD, 33K ohm	R
R67	01157095	RD, 820 ohm	R
R68	01157095	RD, 820 ohm	R
R69	01157095	RD, 820 ohm	R
R70	01157095	RD, 820 ohm	R
R71	01157095	RD, 820 ohm	R
R72	01157081	RD, 220 ohm	R
R73	01157081	RD, 220 ohm	R
R74	01157081	RD, 220 ohm	R
R75	01157081	RD, 220 ohm	R
R76	01157081	RD, 220 ohm	R
R77	01157081	RD, 220 ohm	R
R78	01157081	RD, 220 ohm	R
R79	01157097	RD, 1K ohm	R
R80	01157173	RD, 1.5M ohm	R
R81	01157119	RD, 8.2K ohm	R
CAPACITOR			
C1	08110317	CE, 47uF/1.6V	R
C2	08110313	CE, 10uF/1.6V	R
C3	08110319	CE, 100uF/1.6V	R
C4	08110319	CE, 100uF/1.6V	R
C5	08110319	CE, 100uF/1.6V	R
C6	08110319	CE, 100uF/1.6V	R
C7	08110507	CE, 1uF	R
C8	08110313	CE, 10uF/1.6V	R
C9	181-155C	0.47uF/100V ±5%	R
C10	02706537	MYL, 0.1uF/100V ±10%	R
C11	08110317	CE, 47uF/1.6V	R
C12	08110511	CE, 4.7uF	R
C13	08110511	CE, 4.7uF	R
C14	08110511	CE, 4.7uF	R
C15	08110511	CE, 4.7uF	R
C16	08110317	CE, 47uF/1.6V	R
C17	08200760	CK, 1000pF/50V ±10%	R
C18	08110317	CE, 47uF/1.6V	R
C19	08110515	CE, 22uF	R
C20	08200760	CK, 1000pF/50V ±10%	R
C21	08200972	CK, 0.01uF +80%, −20%	R
C22	08110317	CE, 47uF/1.6V	R
C23	08300736	CC, 100pF ±5%	R
C24	08300736	CC, 100pF ±5%	R
C25	08200760	CK, 1000pF/50V ±5%	R
C26	08300723	CC, 30pF/50V ±5%	R
C27	08300723	CC, 30pF/50V ±5%	R
C33	08110315	CE, 22uF/1.6V	R
C36	02705337	MYL, 0.1uF/100V ±1%	R
C37	02705337	MYL, 0.1uF/100V ±1%	R
C38	08110319	CE, 47uF/1.6V	R
COIL			
L1	150-109H	COIL, PEAKING SPL 12uH	S
L2	150-109H	COIL, PEAKING SPL 12uH	S
DIODE			
D1	06220117	EQA02-06C	S
D2	06200226	1N4148TA	S
D6	06200226	1N4148TA	S
D7	06200226	1N4148TA	S
D8	06200226	1N4148TA	S
TRANSISTOR			
Q1	06100084	KTA1015-Y	S
Q2	06120172	KTC1959-Y	S
Q3	06120170	KTC1815-GR	S
Q4	06130034	KTD880-Y	S
Q5	06120169	KTC1815-Y	S
Q6	06120169	KTC1815-Y	S
Q7	06120169	KTC1815-Y	S
Q8	06100084	KTA1015-Y	S
Q9	06100084	KTA1015-Y	S
Q10	06100084	KTA1015-Y	S
Q11	06100084	KTA1015-Y	S

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
Q12	06120169	KTC1815-Y	S
Q13	06100084	KTA1015-Y	S
Q14	06100084	KTA1015-Y	S
Q15	06100084	KTA1015-Y	S
Q16	06100084	KTA1015-Y	S
I.C			
IC1	06300501	M3870P	S
IC2	06300502	M206B1	S
IC3	06300503	M705B1	S
IC4	06300505	LS776C	S
IC5	06300342	GL7805	S
IC6	167-006B	KA33V	S
IC7	0630050O	L201B	S
IC8	06300504	M710B1	S
MISCELLANEOUS			
X1	166-015B	RESONATOR, CSB500A	R
X2	156-008B	X-TAL, 4.0MHz HC-18/u	R
	113-139A	TUNER, VTS-1SDHP	S

5. A/V PCB (110-679B)

CAPACITOR			
C01	08300721	CC, 24pF	R
C03	08300721	CC, 24pF	R
DIODE			
D01	06220226	1N4148TA	S
D03	06220226	1N4148TA	S
COIL			
L02	04040025	PL2R2KF PEAKING COIL 2.2uH	S
L04	04040025	PL2R2KF PEAKING COIL 2.2uH	S

6. TRANSMITTER ASSY (105-523A)

RESISTOR			
R01		560 ohm 1/8W	
R02		33 ohm 1/8W	
R03		1 ohm 1/8W	
CAPACITOR			
C01		100pF/50V	
C02		100pF/50V	
C03		220uF/16V	
DIODE			
D01		EL-1ILI	
D02		EL-1ILI	
MISCELLANEOUS			
TR01		KN2222	
IC01	06300504	M710BI	
J1		TIN WIRE, O0.6 × ROLL	

7. MISCELLANEOUS

	120-089E	SPEAKER, CO091A06K145E	S
	150-139S	COIL, DEGAUSSING	S

LOCATION NUMBER	PART NO.	DESCRIPTION	RE-MARKS
	174-003H	CORD, POWER	R
	112-224A	CPT, 510YUB22-TC03	S
	450-007A	ADAPTER	R
	482-759A	OWNER'S MANUAL	R
	110-955A	PWB ASSY, LED	R
	105-523A	TRANSMITTER ASSY	R
	106-031B	PRE-AMP ASSY	R
	132-021A	ANTENNA ASSY, ROD	S

MECHANICAL PARTS LIST

DESCRIPTION	PART NO.	Q'TY	REMARKS
HNW508	03120104	4	R
TTS1 + 4 × 14	03232304	2	R
TTS1 + 4 × 16	03232305	20	R
RTS1 + 3 × 10	03281003	2	R
RTS1 + 3 × 12	03281004	16	R
CONNECTOR ASSY, 2P	387-326G	2	R
RTS1 + 3 × 8	03281002	2	R
CORD ASSY, POWER	174-093A	1	R
LEAD SET, BINDING	170-502K	1	R
COVER, SWITCH	303-880A	1	R
HOLDER, POWER CORD	341-242C	1	R
SUPPORTER, MAIN POWER	343-512A	1	R
CONNECTOR ASSY, 3P	387-284Q	1	R
CONNECTOR ASSY, 2P AMP	387-363S	1	R
LEAD SET, EARTH	170-326R	1	R
SPRING, EARTH	320-001A	1	R
CONNECTOR ASSY, 1P	387-189B	1	R
GRILL, SPEAKER	314-075A	1	R
SPRING, COIL	320-070E	1	R
CUSHION, RUBBER	325-030A	1	R
BAR, FILTER FIX	362-037B	1	R
PLATE, BRAND	407-244A		R
PLATE, INDICATE DECORATION	407-380F		R
METAL, ADHESIVE	430-451C	2	R
LOCK ASSY, DOOR	470-020B	1	
RTS2 + 3 × 8A	03220202	7	R
LEAD SET, FASTEN	170-573E	2	
PIN PLUG	366-009B	2	R
CONNECTOR ASSY, 6P	387-284B	1	R
CONNECTOR ASSY, 4P	387-326T	1	R
COVER, SHIELD	303-793A	1	R
FRAME, CHASSIS	312-176C	1	R
SPACE, MAIN BU508ND	323-088A	2	R
SCREW, WASHER	332-036B	6	R
WASHER FOR TR	334-036A	2	R
FIXER, TR	342-045A	2	R
SUPPORTER, FBT	343-447D	1	R
PLATE, HEAT SINK	407-329C	1	R
PLATE, HEAT SINK	407-330A	1	R
PLATE, SHIELD	407-372A	1	R
PLATE ASSY, HEAT SINK	407-343A	1	R
PLATE, HEAT SINK	407-331A	1	R
PLATE, SHIELD	407-487A	1	R
PLATE, SHIELD	407-632A	1	R
WASHER, CPT FIXING	334-039A	4	R
HOLDER, METAL ASSY	341-325A	4	R
FIXER, FILTER (R)	342-050A	1	R
FIXER, FILTER (L)	342-051A	1	R
SUPPORTER, BOARD ANT.	343-513A	1	R
PIN, STAPLE NO. 10	366-017A	2	R
WRAP ASSY	374-827B	1	
PIN, STAPLE	366-036A	16	R
PACKING, TOP	371-394A	1	R
PACKING, BOTTOM	371-395A	1	R
BOX, INNER	372-A77G	1	R
CONNECTOR ASSY 10P	387-2842	1	R
JACK ASSY, BNC	380-047B	1	R
BOARD ASSY, SEMI ANT8A/V	401-405B	1	R
CASE, SHIELD	302-745A	1	R

DESCRIPTION	PART NO.	Q'TY	REMARKS
WASHER, FOR TR	334-036A	2	R
PIN, MOLEX 5045-03A	366-039B	2	R
PIN, MOLEX 5045-05A	366-039D	1	R
PIN, MOLEX 5045-08A	366-039G	1	R
PIN, MOLEX 5045-10A	366-039J	1	R
SOCKET, IC (28P) AMP	381-079J	1	R
SOCKET, IC (40P) AMP	381-079K	1	R
CONNECTOR ASSY, 1P	387-166T	1	R
CONNECTOR ASSY, 2P	387-186A	1	R
CONNECTOR ASSY, 6P	387-282X	1	R
CONNECTOR ASSY, 14P	387-284U	1	R
METAL, HEAT SINK V.OUT	430-302C	1	R
METAL, CRT FIXING	430-603A	4	R

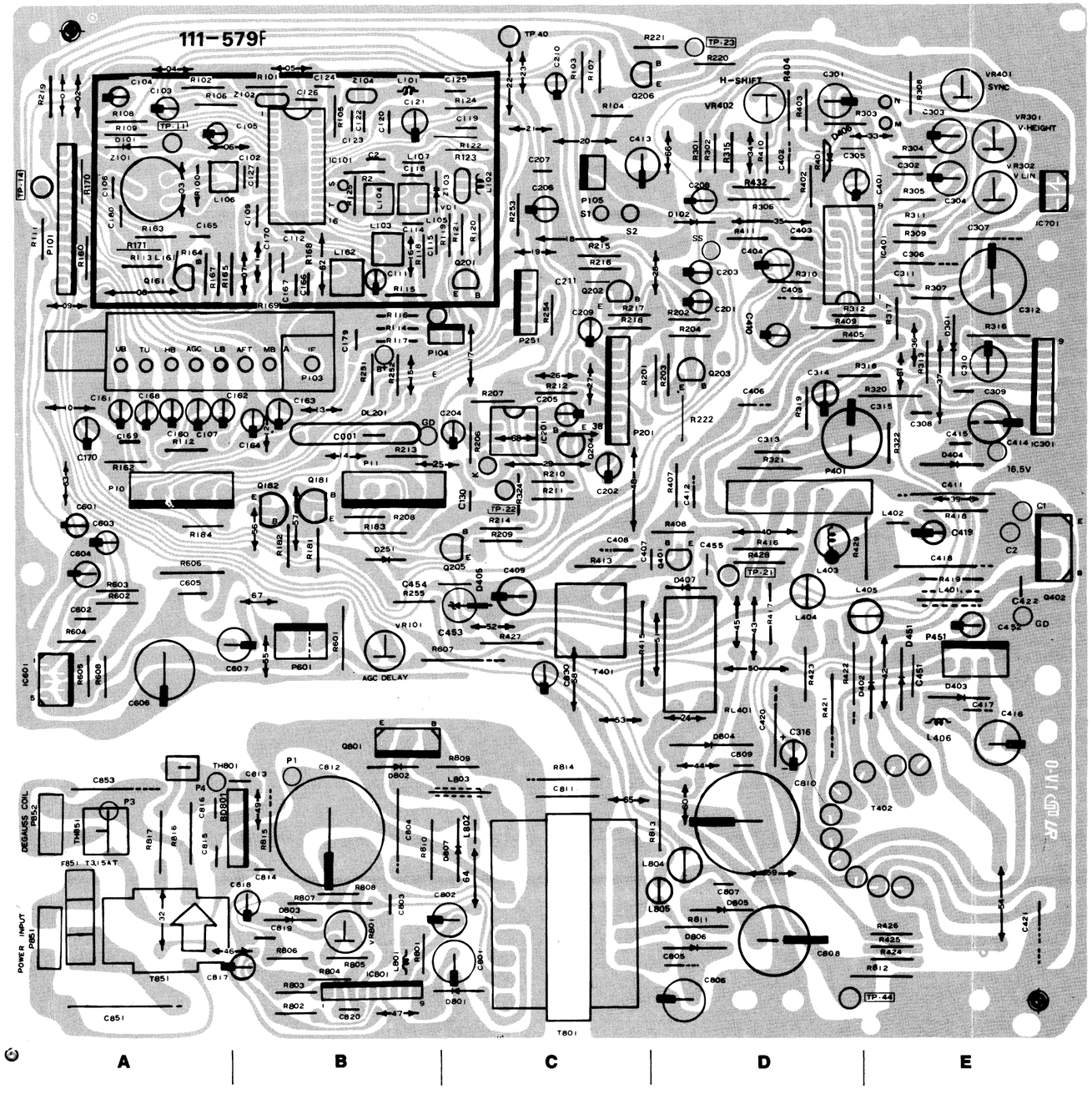
COMPONENT LOCATION GUIDE

(Refer to page 31)

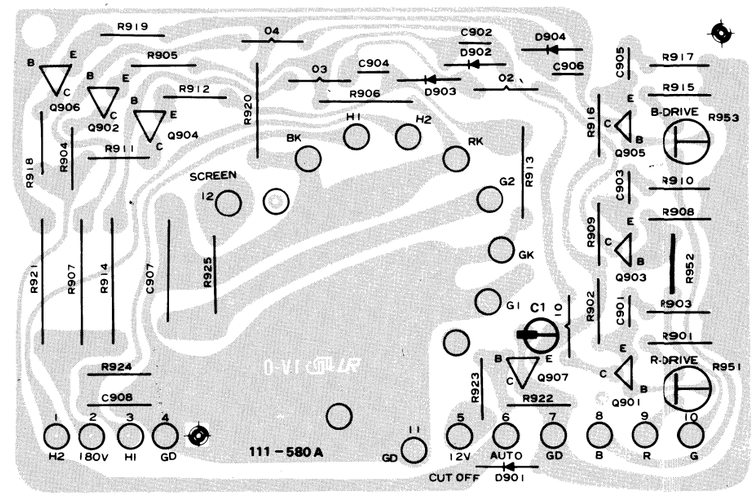
R2 ..... 1B
R100 ..... 1A
R101 ..... 1B
R102 ..... 1A
R103 ..... 1C
R104 ..... 1C
R105 ..... 1B
R106 ..... 1A
R107 ..... 1C
R108 ..... 1A
R109 ..... 1A
R111 ..... 2A
R112 ..... 3A
R113 ..... 2A
R114 ..... 2B
R115 ..... 2B
R116 ..... 2B
R117 ..... 2B
R118 ..... 2B
R119 ..... 2B
R120 ..... 2C
R121 ..... 2C
R122 ..... 1C
R123 ..... 1C
R124 ..... 1C
R125 ..... 1B
R160 ..... 2A
R162 ..... 3A
R163 ..... 2A
R164 ..... 2A
R165 ..... 2A
R167 ..... 2A
R168 ..... 2B
R169 ..... 2B
R170 ..... 1A
R171 ..... 2A
R181 ..... 3B
R182 ..... 3B
R183 ..... 3B
R184 ..... 3A
R201 ..... 2C
R202 ..... 2D
R203 ..... 2D
R204 ..... 2D
R206 ..... 3C
R207 ..... 2C
R208 ..... 3B
R209 ..... 3C
R210 ..... 3C
R211 ..... 3C
R212 ..... 2C
R213 ..... 3B
R214 ..... 3C
R215 ..... 2C
R216 ..... 2C
R217 ..... 2C
R218 ..... 2C
R219 ..... 1A
R220 ..... 1D
R221 ..... 1C
R222 ..... 2D
R251 ..... 2B
C203 ..... 2D
C204 ..... 3C
R252 ..... 2B
R253 ..... 1C
R254 ..... 2C
R255 ..... 3B
R301 ..... 1D
R302 ..... 1D
R303 ..... 1D
R304 ..... 1E
R305 ..... 1E
R306 ..... 1D
R307 ..... 2E
R308 ..... 1E
R309 ..... 2E
R310 ..... 2D
R311 ..... 2E
R312 ..... 2D
R313 ..... 2E
R315 ..... 1D
R316 ..... 1E
R317 ..... 2E
R318 ..... 2D
R319 ..... 2D
R320 ..... 2E
R321 ..... 3D
R322 ..... 3E
R324 ..... 3C
R401 ..... 1D
R402 ..... 1D
R403 ..... 1D
R404 ..... 1D
R405 ..... 2D
R407 ..... 3D
R408 ..... 3D
R409 ..... 2D
R410 ..... 1D
R411 ..... 2D
R413 ..... 3C
R415 ..... 4C
R416 ..... 3D
R417 ..... 4D
R418 ..... 3E
R419 ..... 3E
R421 ..... 4D
R422 ..... 4D
R423 ..... 4D
R424 ..... 5E
R425 ..... 5E
R426 ..... 5E
R427 ..... 4C
R428 ..... 3D
R429 ..... 3D
R432 ..... 1D
R601 ..... 4B
R602 ..... 3A
R603 ..... 3A
R604 ..... 4A
R605 ..... 4A
R606 ..... 3A
R607 ..... 4C
R608 ..... 4A
R801 ..... 5B
R802 ..... 5B
C804 ..... 4B
C805 ..... 5D
R803 ..... 5B
R804 ..... 5B
R805 ..... 5B
R806 ..... 5B
R807 ..... 5B
R808 ..... 5B
R809 ..... 4C
R810 ..... 5B
R811 ..... 5D
R812 ..... 5E
R813 ..... 4D
R814 ..... 4C
R815 ..... 4B
R816 ..... 5A
R817 ..... 5A
VR101 ..... 4B
VR301 ..... 1E
VR302 ..... 1E
VR401 ..... 1E
VR402 ..... 1D
VR801 ..... 5B
C001 ..... 3B
C1 ..... 3E
C2 ..... 1B
C101 ..... 1B
C103 ..... 1A
C104 ..... 1A
C105 ..... 1A
C106 ..... 1A
C107 ..... 2A
C108 ..... 1A
C109 ..... 2B
C111 ..... 2B
C112 ..... 2B
C114 ..... 2B
C115 ..... 2B
C118 ..... 1B
C119 ..... 1C
C120 ..... 1B
C121 ..... 1B
C122 ..... 1B
C124 ..... 1B
C125 ..... 1C
C126 ..... 1B
C127 ..... 1B
C130 ..... 3C
C160 ..... 2A
C161 ..... 2A
C162 ..... 2A
C163 ..... 2B
C164 ..... 2B
C165 ..... 2A
C166 ..... 2B
C167 ..... 2B
C168 ..... 2A
C169 ..... 3A
C170 ..... 2B
C179 ..... 2B
C180 ..... 1A
C201 ..... 2D
C202 ..... 3C
D803 ..... 5B
D804 ..... 4D
C205 ..... 2C
C206 ..... 1C
C207 ..... 1C
C208 ..... 1D
C209 ..... 2C
C210 ..... 1C
C211 ..... 2C
C301 ..... 1D
C302 ..... 1E
C303 ..... 1E
C304 ..... 1E
C305 ..... 1D
C306 ..... 2E
C307 ..... 2E
C308 ..... 2E
C309 ..... 2E
C310 ..... 2E
C311 ..... 2E
C312 ..... 2E
C313 ..... 3D
C314 ..... 2D
C315 ..... 2D
C316 ..... 4D
C401 ..... 1D
C402 ..... 1D
C403 ..... 2D
C404 ..... 2D
C405 ..... 2D
C406 ..... 2D
C407 ..... 3C
C408 ..... 3C
C409 ..... 3C
C410 ..... 2D
C411 ..... 3E
C412 ..... 3D
C413 ..... 1C
C414 ..... 3E
C415 ..... 3E
C416 ..... 4E
C417 ..... 4E
C418 ..... 3E
C419 ..... 3E
C420 ..... 4D
C421 ..... 5E
C422 ..... 4E
C451 ..... 4E
C452 ..... 3E
C453 ..... 3C
C454 ..... 3B
C455 ..... 3D
C601 ..... 3A
C602 ..... 3A
C603 ..... 3A
C604 ..... 3A
C605 ..... 3A
C606 ..... 4A
C607 ..... 3B
C801 ..... 5C
C802 ..... 5C
C803 ..... 5B
C806 ..... 5D
C807 ..... 5D
C808 ..... 5D
C809 ..... 4D
C810 ..... 4D
C811 ..... 4C
C812 ..... 4B
C813 ..... 4B
C814 ..... 5B
C815 ..... 5A
C816 ..... 4A
C817 ..... 5B
C818 ..... 5B
C819 ..... 5B
C820 ..... 5B
C830 ..... 4C
C851 ..... 5A
C852 ..... 5A
C853 ..... 4A
L101 ..... 1B
L102 ..... 1C
L103 ..... 2B
L104 ..... 2B
L105 ..... 2B
L106 ..... 1A
L107 ..... 1B
L161 ..... 2A
L162 ..... 2B
L401 ..... 3E
L402 ..... 3E
L403 ..... 3D
L404 ..... 3D
L405 ..... 3D
L406 ..... 4E
L801 ..... 5B
L802 ..... 4C
L803 ..... 4C
L804 ..... 5D
L805 ..... 5D
T401 ..... 4C
T402 ..... 4E
T801 ..... 5C
T851 ..... 5A
D101 ..... 1A
D102 ..... 2D
D251 ..... 3B
D301 ..... 2E
D401 ..... 2D
D402 ..... 4D
D403 ..... 4E
D404 ..... 3E
D405 ..... 3C
D406 ..... 1D
D407 ..... 3D
D451 ..... 4E
D801 ..... 5E
D802 ..... 4B
D805 ..... 5D
D806 ..... 5D
D807 ..... 5C
Q161 ..... 2A
Q181 ..... 3D
Q182 ..... 3D
Q201 ..... 2C
Q202 ..... 2C
Q203 ..... 2D
Q204 ..... 3C
Q205 ..... 3C
Q206 ..... 1C
Q401 ..... 3D
Q402 ..... 3E
Q801 ..... 4B
IC101 ..... 1B
IC201 ..... 3C
IC301 ..... 2E
IC401 ..... 2D
IC601 ..... 4A
IC701 ..... 1E
IC801 ..... 5B
Z101 ..... 1A
Z102 ..... 1B
Z103 ..... 1C
Z104 ..... 1B
P1 ..... 4B
P3 ..... 4A
P10 ..... 3A
P11 ..... 3B
P101 ..... 2A
P103 ..... 2B
P104 ..... 2B
P105 ..... 1C
P201 ..... 2C
P251 ..... 2C
P401 ..... 3B
P451 ..... 4E
P601 ..... 4B
P851 ..... 5A
P852 ..... 4A
TH801 ..... 4A
TH851 ..... 5A
F851 ..... 5A
DL201 ..... 3B
RL401 ..... 4D
TP11 ..... 1A
TP14 ..... 1A
TP21 ..... 3D
TP22 ..... 3C
TP23 ..... 1D
TP40 ..... 1C
TP44 ..... 5E

PRINTED WIRING BOARD

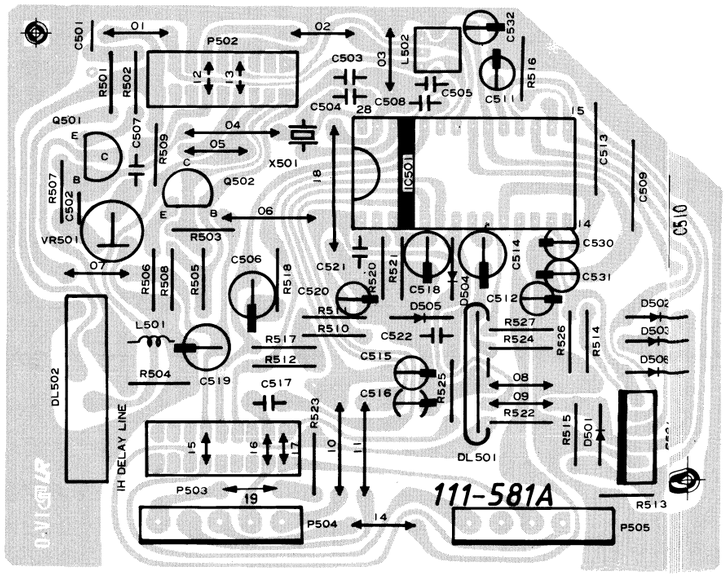
MAIN P.C.BOARD (COMPONENT SIDE)

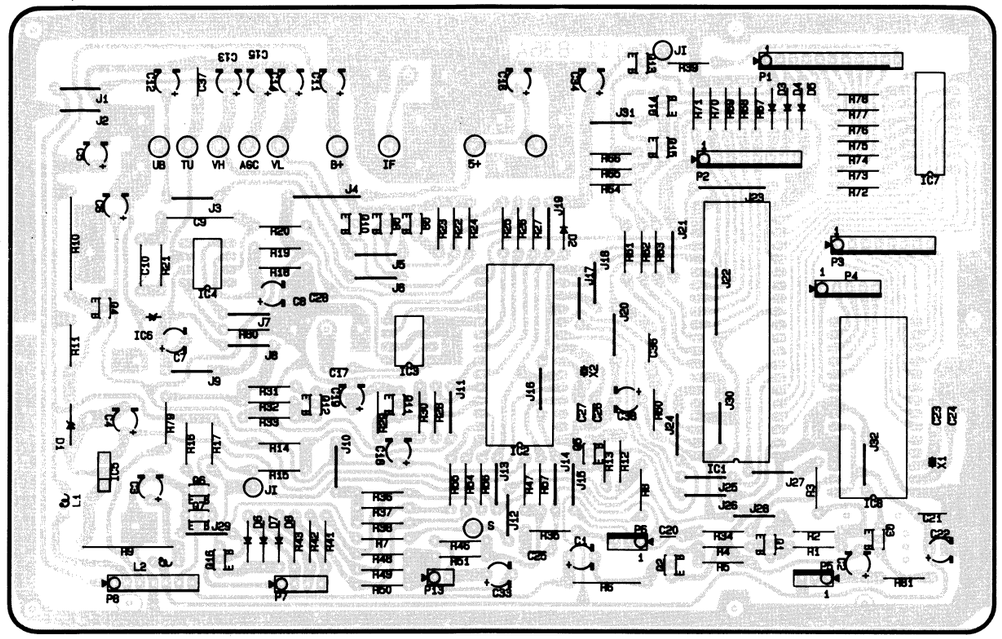


CPT P.C.BOARD (COMPONENT SIDE)

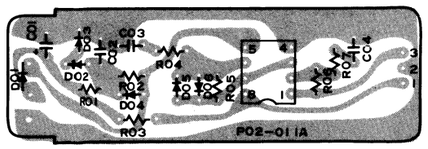


CHROMA P.C.BOARD (COMPONENT SIDE)

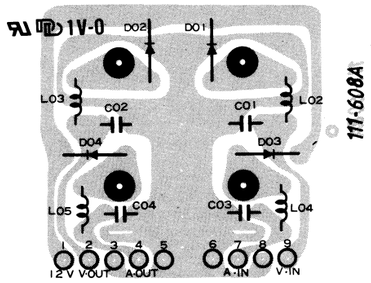




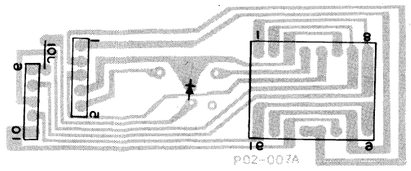
TUNING P.C.BOARD (COMPONENT SIDE)



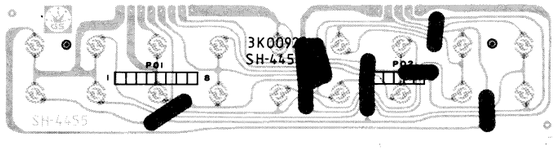
PRE-AMP P.C.BOARD (COMPONENT SIDE)



A/V P.C.BOARD (COMPONENT SIDE)



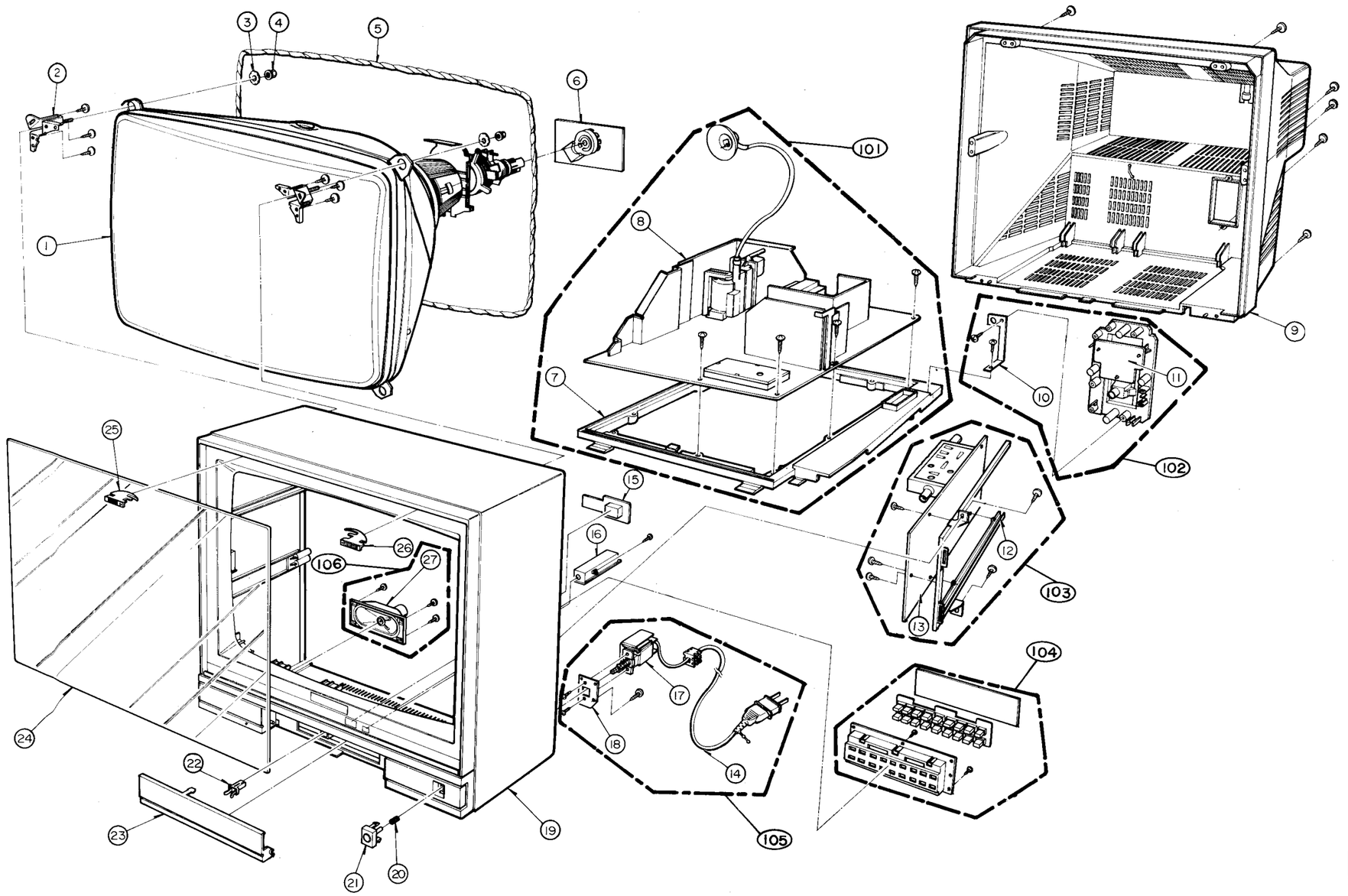
LED P.C.BOARD



KEY PAD P.C.BOARD (COMPONENT SIDE)

MEMO

EXPLODED VIEW

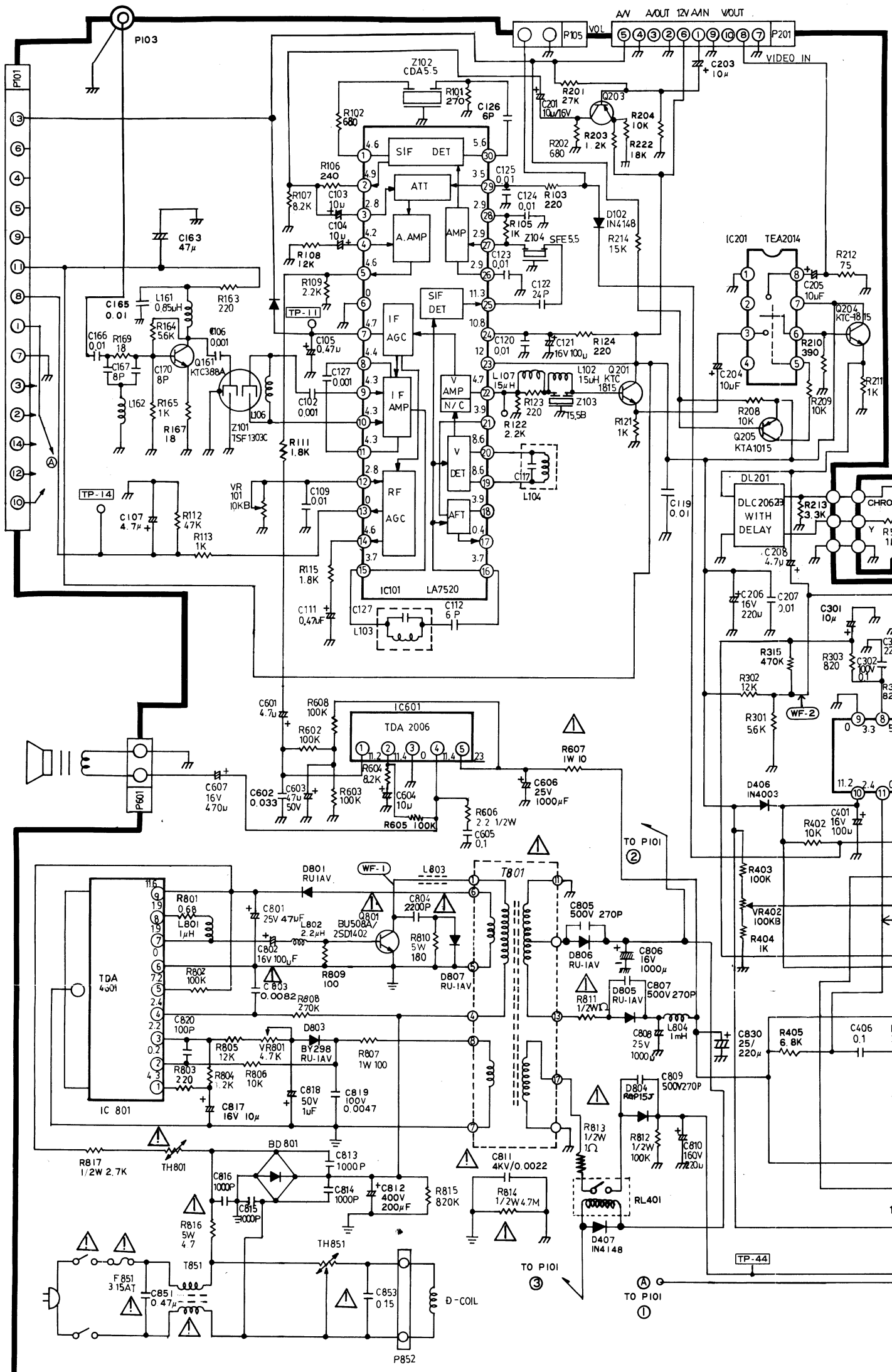


NO.	DESCRIPTION	Q'TY	PART NO.	REMARKS
1	CPT 510YUB22-TC03	1	112-224A	
2	METAL, CPT FIXING	4	430-603A	
3	WASHER, CPT FIXING	4	334-039A	
4	HNW508	4	03120104	
5	COIL, DEGAUSSING	1	150-139S	
6	PWB ASSY, CPT	1	110-675B	
7	FRAME, CHASSIS	1	312-176C	
8	PWB ASSY, MAIN	1	110-956A	
9	COVER ASSY, BACK	1	303-886B	
10	SUPPORTER, BOARD ANT	1	343-513A	
11	PWB ASSY A/V	1	110-679B	
12	SUPPORTER ASSY, FS PWB	1	343-539A	
13	PWB ASSY FS	1	110-957A	
14	CORD POWER	1	174-003H	
15	PWB ASSY, LED	1	110-955A	
16	PRE AMP ASSY	1	106-031B	
17	SWITCH, MAIN	1	140-134B	
18	SUPPORTER, MAIN POWER	1	343-512A	
19	CABINET ASSY	1	300-743A	
20	SPRING, COIL	1	320-070E	
21	BUTTON, MAIN POWER	1	441-069A	
22	LOCK ASSY, DOOR	1	470-020B	
23	DOOR ASSY, CONTROL	1	315-204A	
24	WINDOW, GLASS	1	316-071K	
25	FIXER, FILTER (L)	1	342-051A	
26	FIXER, FILTER (R)	1	342-050A	
27	SPEAKER	1	120-089E	

SUB ASSY

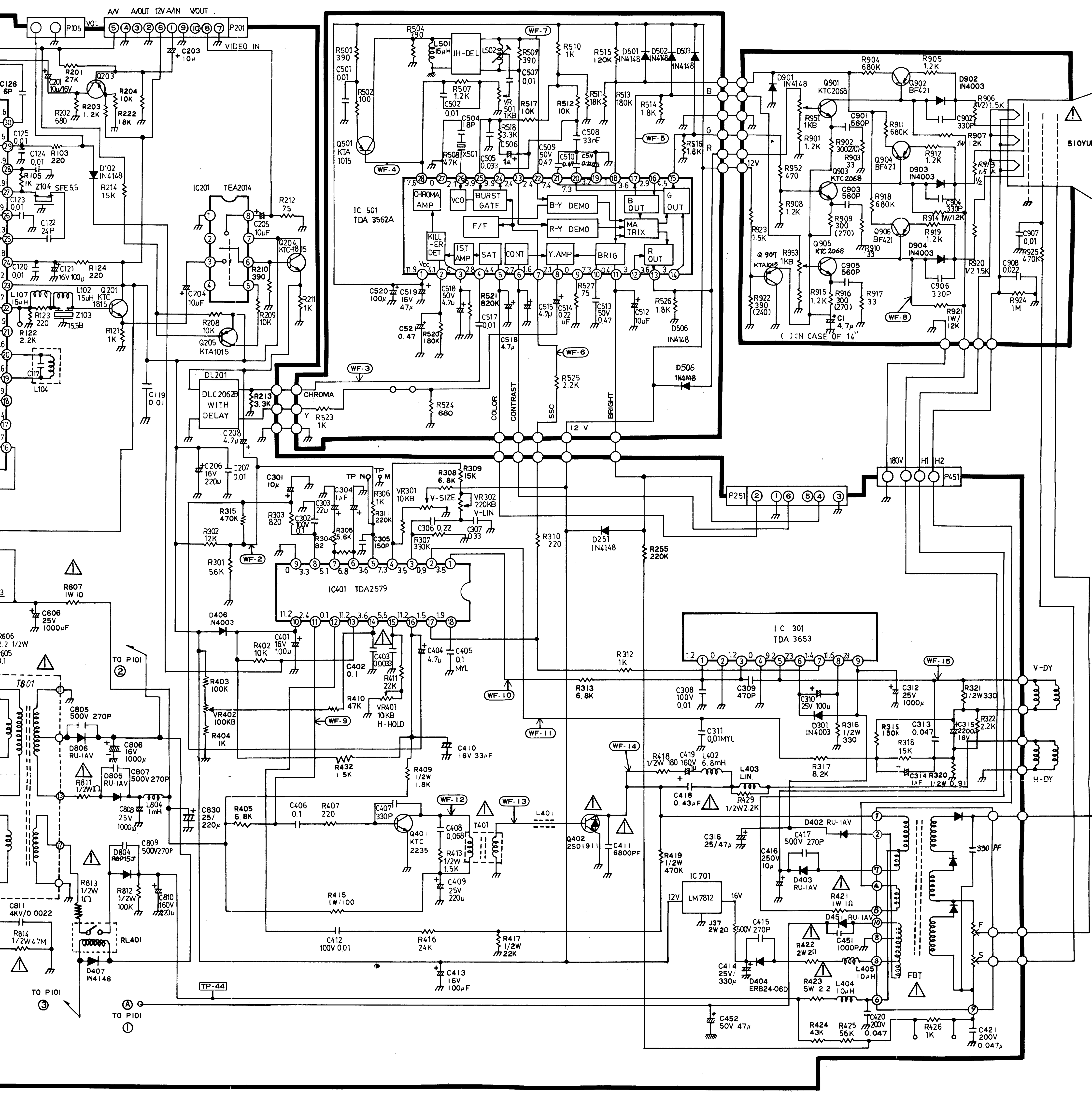
101	MAIN CHASSIS ASSY	1	309-180A	
102	BOARD ASSY, ANT. AND A/V IN		401-403Q	
103	BOARD ASSY, TUNING		401-424A	
104	S/W ASSY, PACK FS		140-168A	
105	SWITCH ASSY POWER		140-166B	
106	SPEAKER ASSY		120-061K	

SCHEMATIC DIAGRAM(PC-



The components marked ⚠ conform to VDE or IEC guidelines and are essential for safe operation of the set, while those marked ⚠ are required for correct operation. Use specified parts only when replacing.

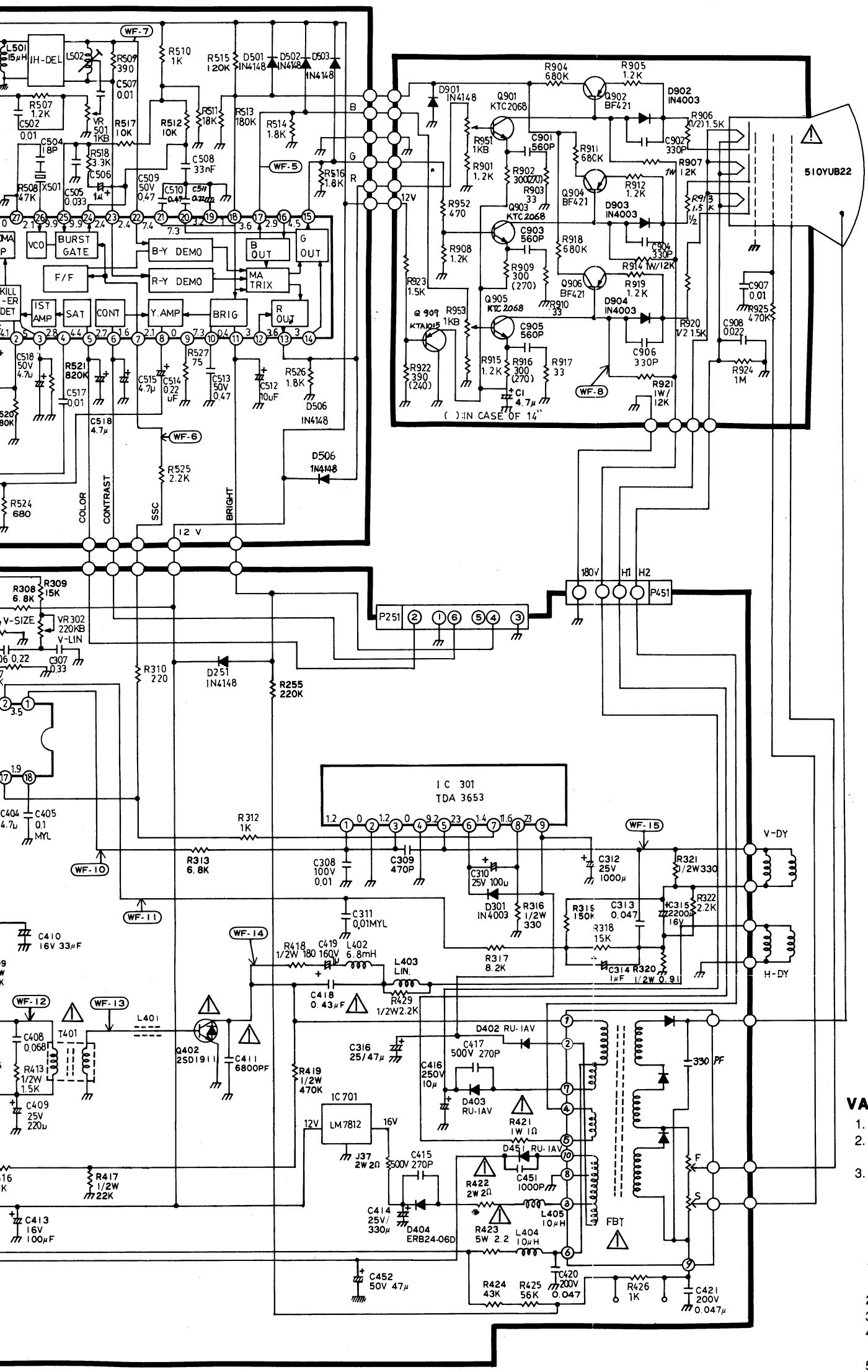
SCHEMATIC DIAGRAM(PC-04X)



NOTICE

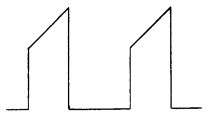
Since this is a basic circuit diagram.
The value of components and some partial connection are subject to be changed for improvement.

DIAGRAM(PC-04X)



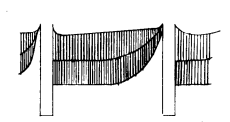
WF1 520VP-P

WF9 7VP-P(H)



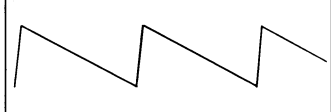
WF2 2.7VP-P(H)

WF10 5.5VP-P(V)



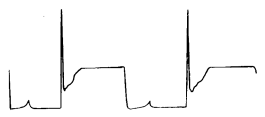
WF3 160mVP-P(H)

WF11 1VP-P(V)

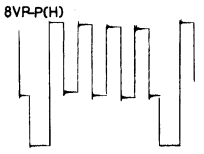


WF4 800mVP-P(H)

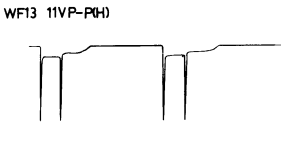
WF12 40VP-P(H)



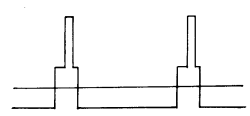
WF5 8VP-P(H)



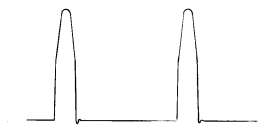
WF13 11VP-P(H)



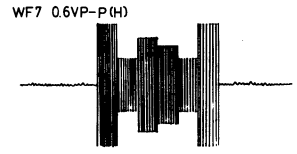
WF6 9VP-P(H)



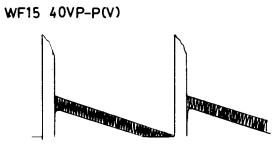
WF14 800VP-P(H)



WF7 0.6VP-P(H)



WF15 40VP-P(V)



WF8 100VP-P(H)

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in mfd and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

OBSERVATION OF VOLTAGES AND WAVEFORMS

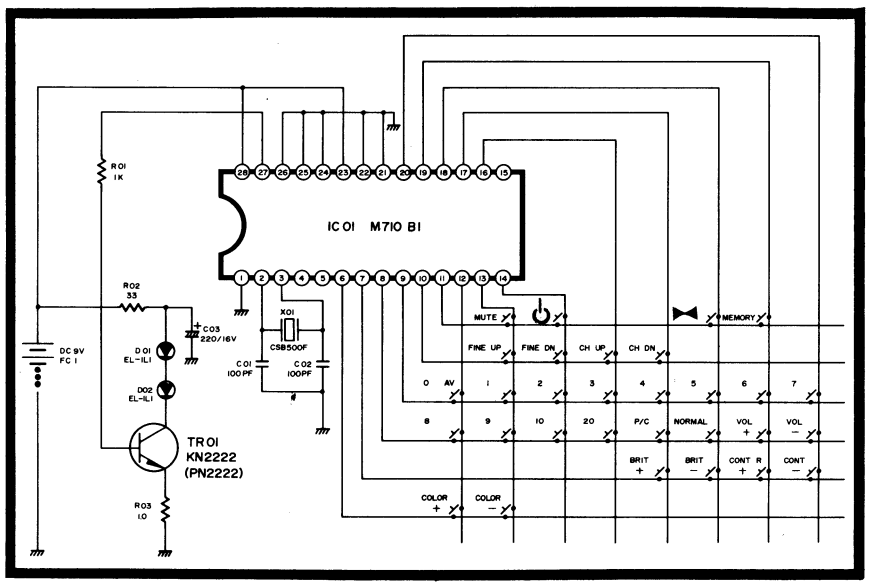
1. Voltages read with VTVM from point shown to chassis ground, line voltage 180~270V volts, colour bar signal.
2. Voltages reading may vary ±20%.
3. The schematic shown is representative only.
4. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
5. Check FINE TUNING, AGC, BRIGHTNESS, CONTRAST and COLOUR controls for best picture, make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position.
6. Waveforms are taken using a standard colour bar signal.

NOTICE

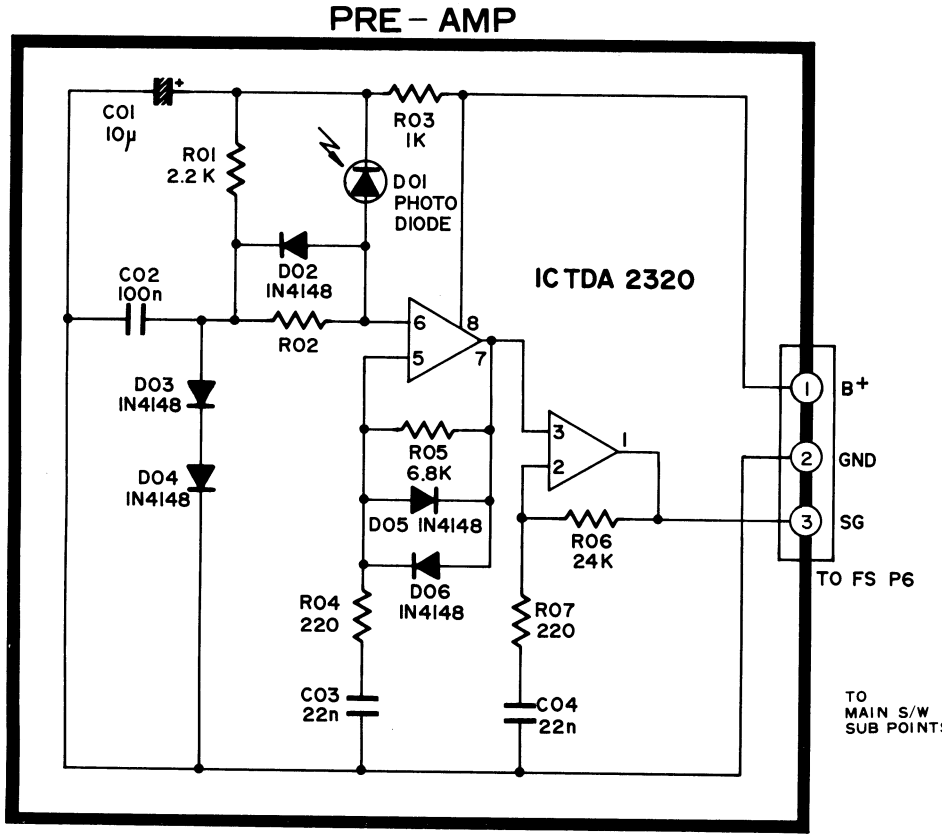
Since this is a basic circuit diagram.
The value of components and some partial connection are subject to be changed for improvement.

FS TUNING SYSTEM SCHE

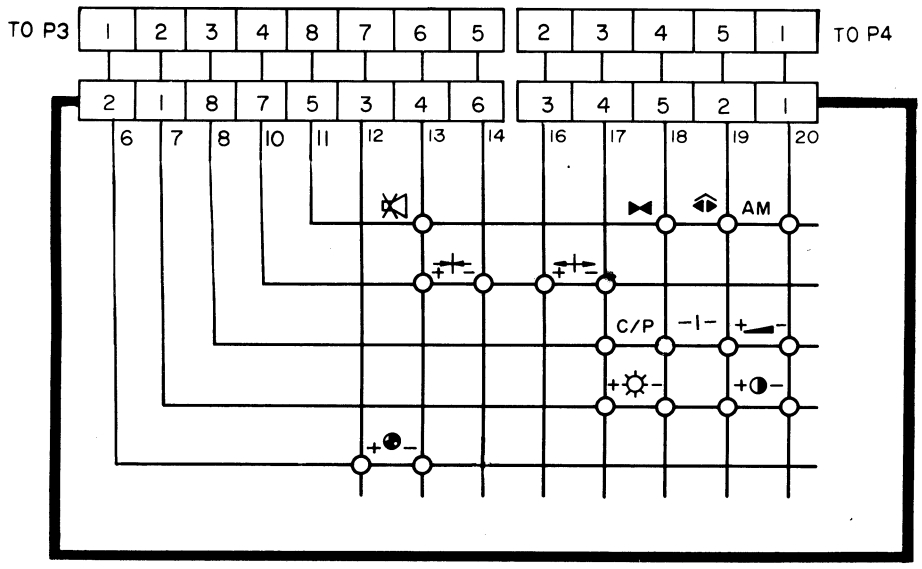
TX SCHEMATIC DIAGRAM

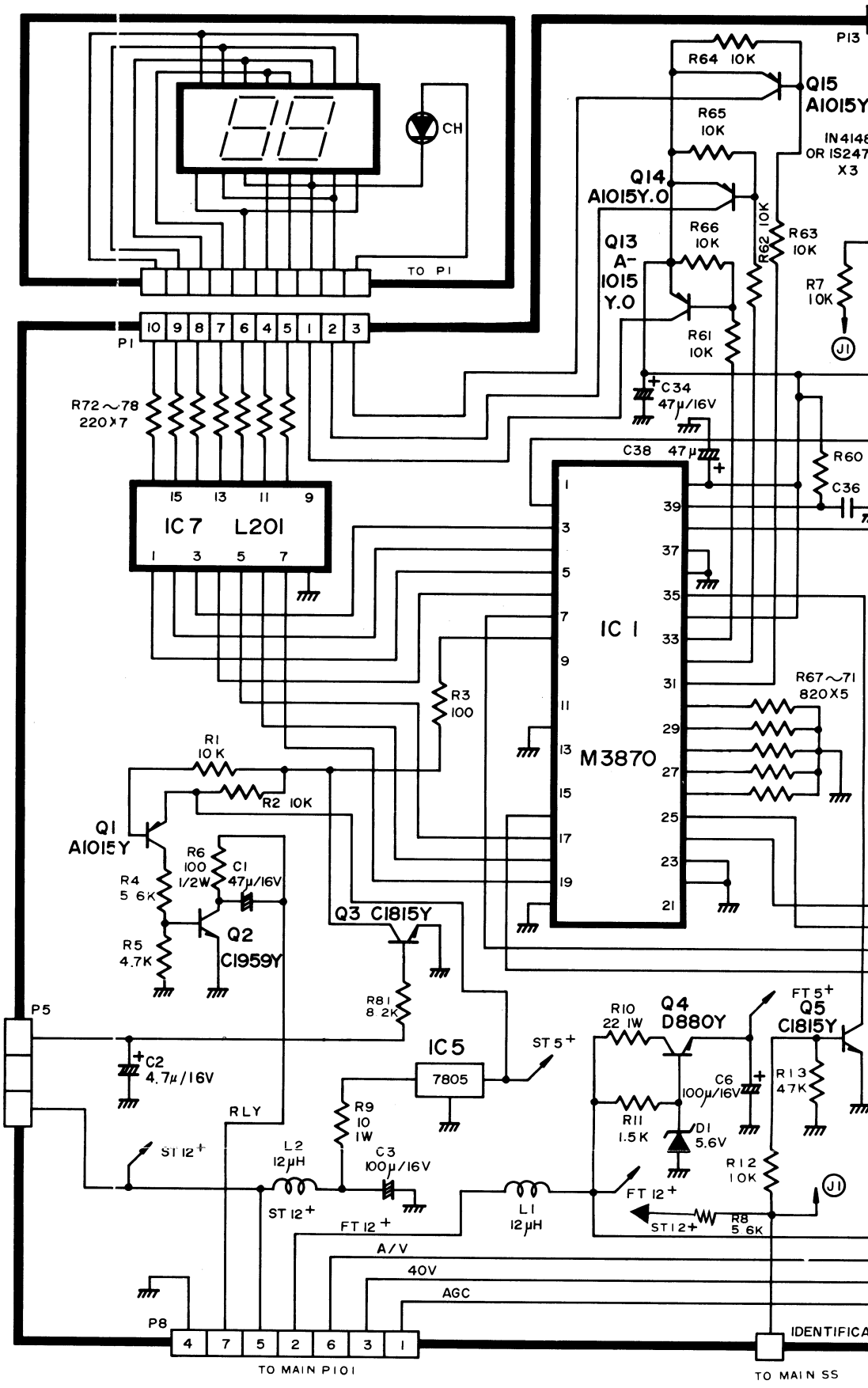


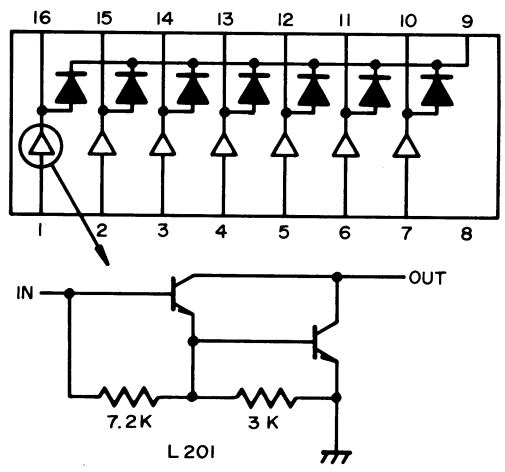
PRE – AMP

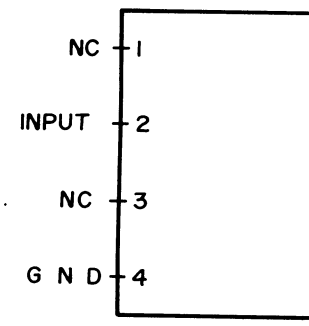


LOCAL FUNCTION KEY



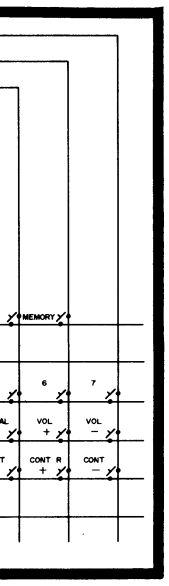


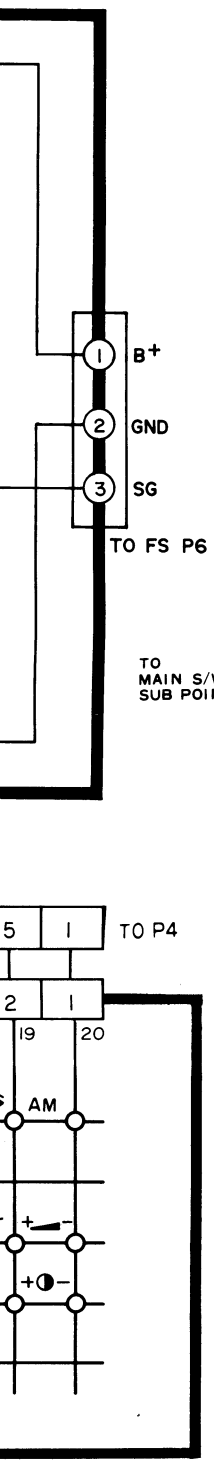


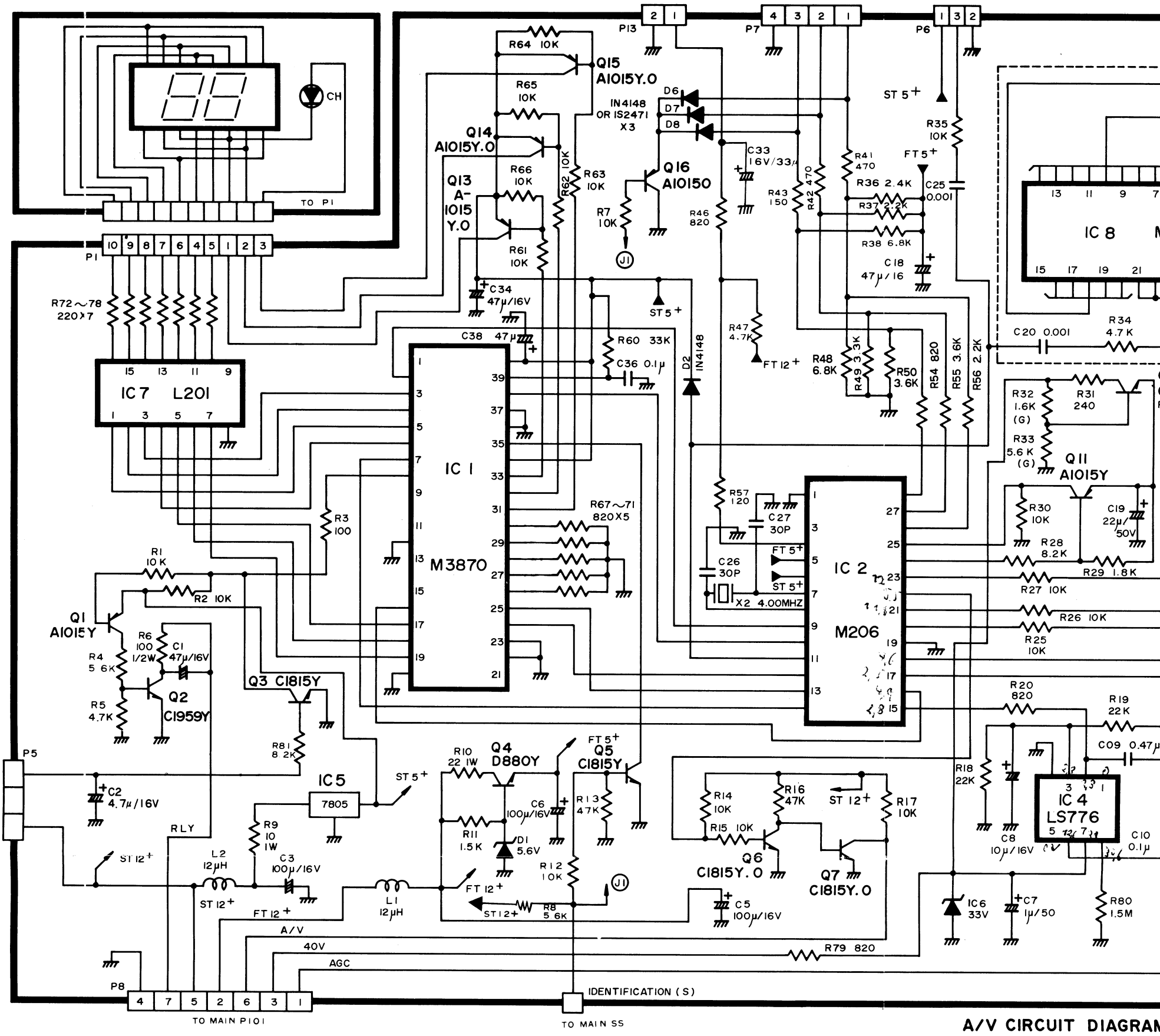


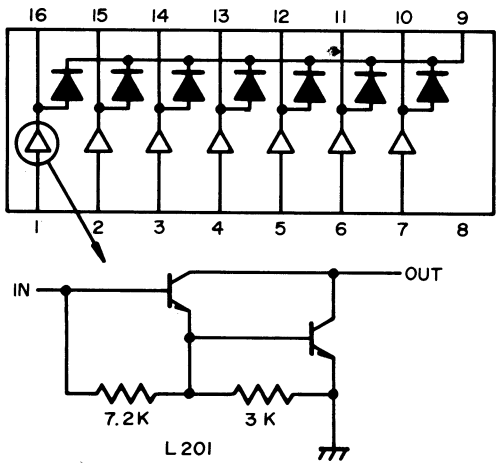
M705

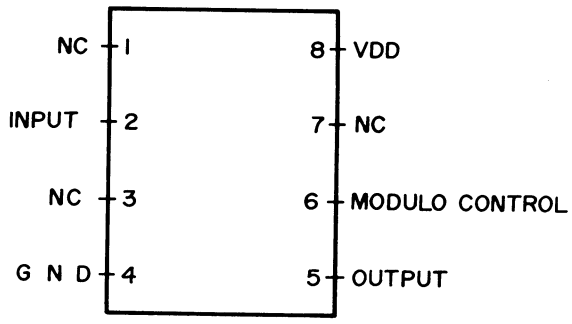
FS TUNING SYSTEM SCHEMATIC DIAGRAM



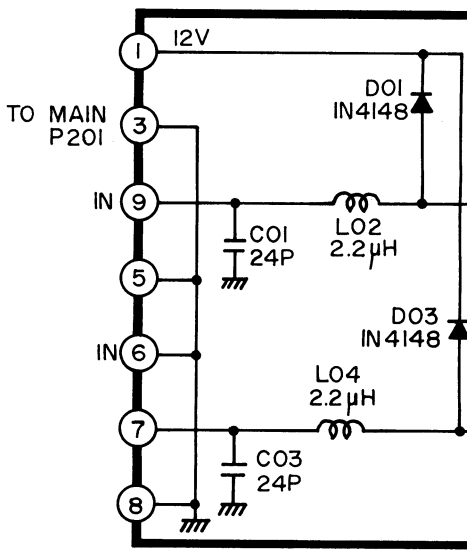




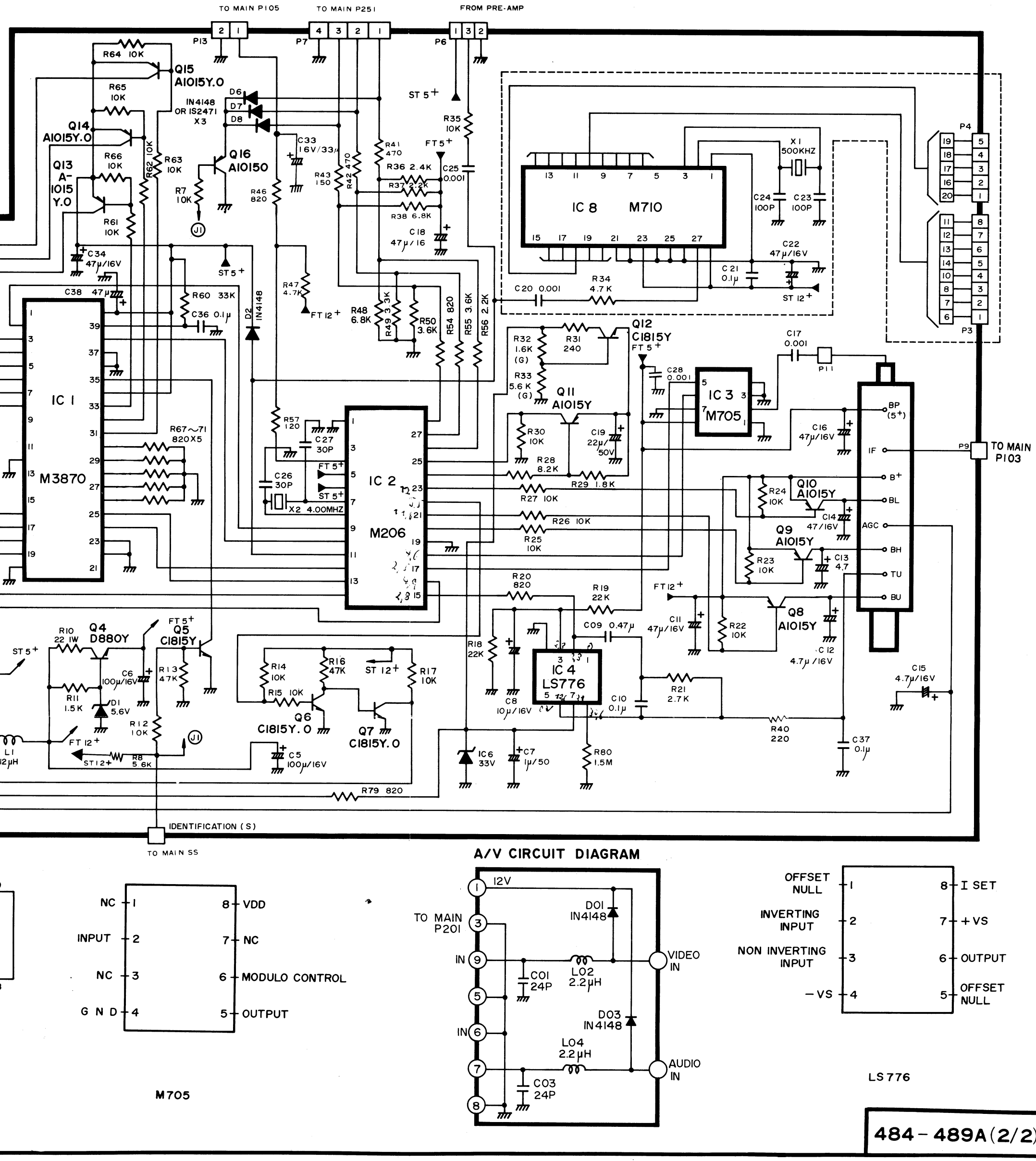




A/V CIRCUIT DIAGRAM



SYSTEM SCHEMATIC DIAGRAM



A/V CIRCUIT DIAGRAM

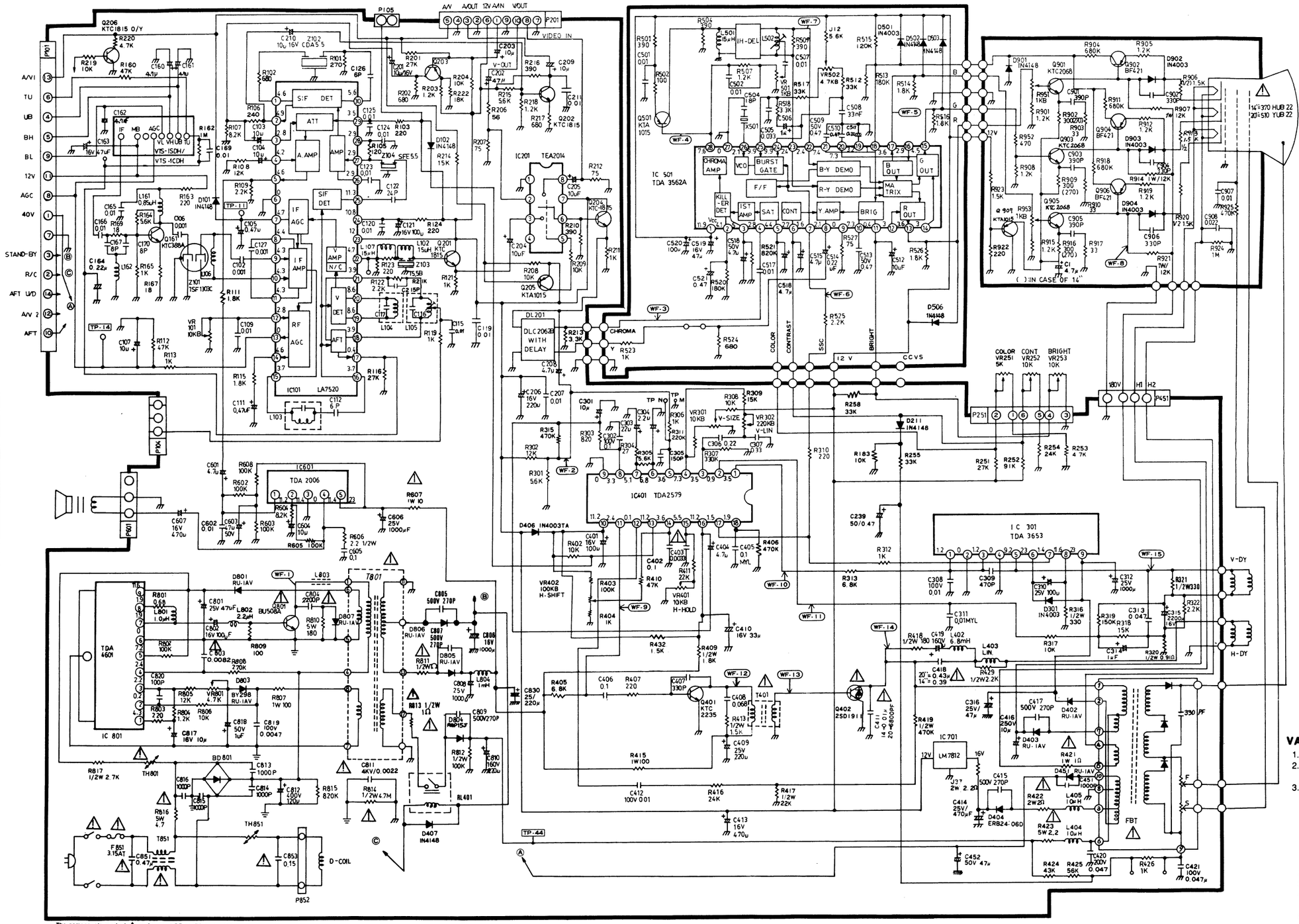
M705

LS 776

484 – 489A (2/2)

SCHEMATIC DIAGRAM(PC-04X)

GoldStar
Audio · Video · TV · Computer



The components marked ⚠ conform to VDE or IEC guidelines and are essential for safe operation of the set, while those marked ⚠ are required for correct operation. Use specified parts only when replacing.

WF1 520VP-P

WF2 2.7VP-P(H)

WF3 160mVP-P(H)

WF4 800mVP-P(H)

WF5 8VP-P(H)

WF6 9VP-P(H)

WF7 0.6VP-P(H)

WF8 100VP-P(H)

WF9 7VP-P(H)

WF10 5.5VP-P(V)

WF11 1VP-P(V)

WF12 40VP-P(H)

WF13 11VP-P(H)

WF14 800VP-P(H)

WF15 40VP-P(V)

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in mfd and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 180~270V volts, colour bar signal.
2. Voltages reading may vary ±20%.
3. The schematic shown is representative only.
4. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
5. Check FINE TUNING, AGC, BRIGHTNESS, CONTRAST and COLOUR controls for best picture, make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position.
6. Waveforms are taken using a standard colour bar signal.

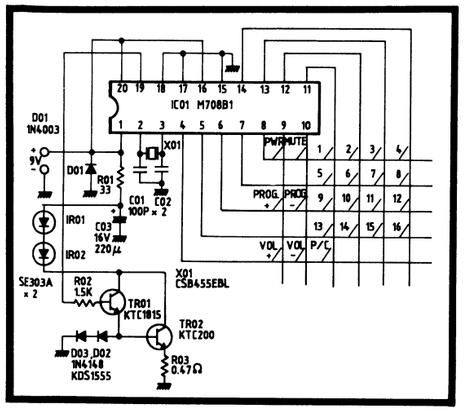
NOTICE

Since this is a basic circuit diagram.
The value of components and some partial connection are subject to be changed for improvement.

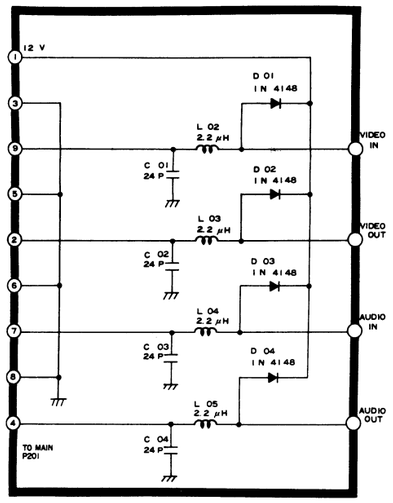
GOLDSTAR
CBT-9225

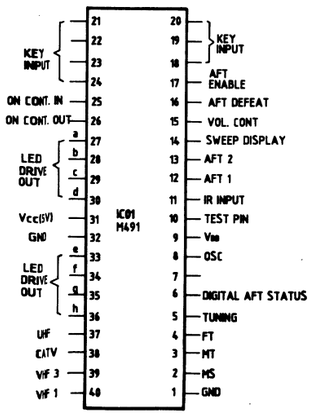
VS TUNING SYSTEM SCHEMATIC DIAGRAM

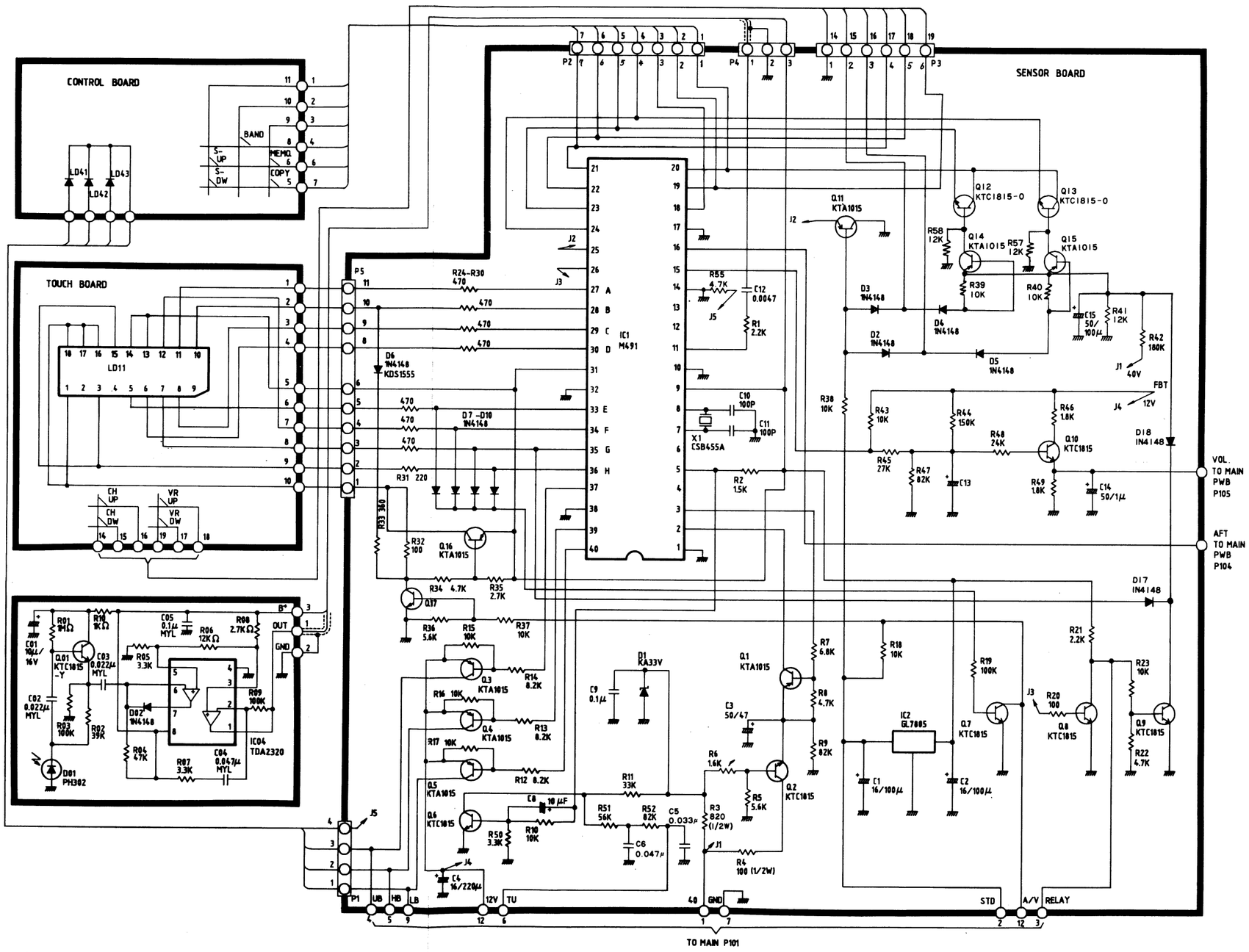
TX SCHEMATIC DIAGRAM



A/V CIRCUIT DIAGRAM







GOLDSTAR
CBT-9225

GoldStar

537, Namdaemun-ro 5ga, Chung-gu, Seoul, Korea.

OCTOBER, 1986

P/N 483-283P
Printed in Korea